

CHEESE FEVER:
A HISTORY OF "SOFT MICHIGAN" CHEESE, 1825-1925

By

Laurie Catherine Dickens, BA, MA

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the Degree of

DOCTOR OF PHILOSOPHY

American Studies

2010

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ABSTRACT

CHEESE FEVER: A HISTORY OF “SOFT MICHIGAN” CHEESE 1825-1925

By

Laurie Catherine Dickens

Prior to the American Civil War, little (if any) cheese was manufactured commercially in Michigan. Most cheese production took place on the family farm for home use with limited neighborhood sales. In 1866, with the encouragement of the State Board of Agriculture, several Lenawee County farmers began the commercial production of “Soft Michigan” cheese. The commercial success of these cheeses helped shape business and political careers in southeast Michigan. “Soft Michigan” cheese production transformed the practice of agriculture by increasing the roles of technology and science and the involvement of government in the food supply.

The shift in production of cheese in Michigan from 1825 to 1925 provides a window to analyze the intersection of agriculture, government, technology, science, and education. By the end of the first quarter of the twentieth century, cheese production would follow an industrial model, under publicly mandated inspection and regulation.

Under the leadership of Michigan Agricultural College, science and technology was applied to food production ensuring that only the best dairy products were made into cheese. Through regulation and promotion of business models and public health, progressive politics and cheese production would become linked. Science, technology, education, government regulation, and capital created the conditions that forced dairy production away from small commercial factories to large industrialized plants.

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*Dedicated to
Rawlen and Jessie Bell Saul Jones
who farmed in Lenawee County through the Great Depression and World War II
so that their granddaughters and great-granddaughters could make the most of a
land-grant education.*

*Judith Ann Waterbury Miller MacBeth
Class of 1965 Bachelor of Arts, Elementary Education
Honors College*

*Kileen Marie Dickens Mohr
Class of 1982 Certificate in Commercial Floriculture*

*Kathy Sue White Dickens
Class of 1988 Bachelor of Science, Education*

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*Laurie Catherine Dickens Perkins
Class of 2010 Doctor of Philosophy, American Studies*

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ACKNOWLEDGMENTS

In the fall of 2002, I received a call from the processing staff of the Archives of Michigan. They asked me to come and examine a couple bound volumes containing a series of forms compiled by a Dairy and Food Commission special inspector, Charles O. Bradley. The staff thought I might be interested because the forms related to Bradley's inspection tour of Lenawee County cheese factories. The moment I examined those records, I knew I was looking at my dissertation.

I have worked with the staff of the Archives of Michigan for more than twenty years, and have found them helpful and encouraging in every research project I have ever undertaken in their reading room. I wish to acknowledge here the dedicated work of State Archivist Mark Harvey and the entire Archives staff: Mary Zimmeth, Helen Taylor, Julie Meyerle, Robert Garrett, Charlie Cusack, Matthew Klein, Diana Evans, Mary Jo Remensnyder, and Nicole Garrett. I include two retired archival staff members: John Curry, photo reference archivist, who first introduced me to the state's collection of agriculture-related images, and Dr. Leroy Barnett, who more than twelve years ago challenged me to work toward this degree. Dr. Barnett walked me through writing my first book, *Wreck on the Wabash*, in 2001 and has been an enthusiastic mentor and friend. I appreciate his willingness to read the first draft of this dissertation, which is infinitely better for his having done so.

When I first thought of starting this degree, it had been more than fifteen years since I had been a student. Even though a number of women in our family had already attended Michigan State University, I personally didn't know my way around campus. For this advice I sought out friend and colleague Terry Shaffer, curator at the MSU

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Museum. Terry was delighted that I was considering going back to school. It was through Terry's advice that I was able to build my committee, members of which include Craig Harris (chair), Ken Lewis, Tom Summerhill, and Edward Watts.

The Library of Michigan is one of the best-kept secrets in the state. For several years now, I have taken up residency there in my assigned seat: last row under the atrium, always facing east. Even though I have worked in the same building as the Library for more than twenty years, I had only nibbled around the edges of its vast collection. I have gotten to know many of the reference librarians in the last several years. They, like the Archives staff, are knowledgeable and eager to assist at every turn. Many of them celebrated with me at the completion of each chapter or saved my seat for me. Thank you to Nancy Robertson, director of the Library of Michigan, staff members Bernard Davis, Carol Fink, Charles Hagler, Leelyn Johnson, Edwina Morgan, Gloriane Peck, Randy Riley, Kris Rzepczynski, Ann Sanders, and Karen White, and resident genealogist Ruth Lewis.

There are several people who work for the Michigan Historical Museum that I need to acknowledge. I have worked alongside some of these folks for almost thirty years and they are my work family, colleagues, mentors, and friends. Several of us celebrated together when I passed comps and orals and they are waiting to wish me well when this text is completed: Scott Peters, Lisa and Rod Konieczny, Susan Cooper, Steve Ostrander, and Rich Geer. Rose Victory, retired curator of Collections, continues to be a mentor and friend. Dr. Maria Quinlan Leiby hired me more than twenty years ago and I have been inspired by her accomplishments in attaining her own degree. Jim Schultz, now retired, gave me my first job with the Museum in 1980. Thanks also to my many friends and

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colleagues at the Capitol of Michigan—especially to Dr. Joseph and Kerry Chartkoff, who are an official part of my family. Their support over the last twenty years has been invaluable. Their reading of later drafts of this paper has improved it tremendously.

Beyond the state's vast collections are the repositories in other parts of Michigan. The Bentley Historical Collections at the University of Michigan provided me with equal amounts of research and assistance, as did the staffs at the Adrian Public Library, Lenawee County Library, and Morenci Public Library.

Thirty-six years ago, I walked into the Lenawee Historical Society and Museum in Adrian, where I found my passion for history. Dr. Charles Lindquist, now retired, became both mentor and friend. He, along with the late Doris A. Frazier and the late Elwood Little, taught me the history of Lenawee County. So much of Michigan's early history is centered in this county on the Ohio border and so many prominent citizens of this state have come from there that writing this dissertation was made much easier. I have plumbed this well of knowledge many, many times since. Not only did Dr. Lindquist oversee a wealth of Lenawee County history, but I had easy access to it as well. The records held by this small historical society are amazing and form the core of this dissertation. I want to thank Jan Richardi, Jim Path, and Wilma Silberhorn for making my journey through the archives a delight.

Lenawee County abounds with historical societies. Hudson, Tecumseh, Blissfield, Morenci, and Clinton all have collections of equal richness. They too have dedicated volunteers, like Hazel Monahan of the Hudson Area Historical Society, who has a deep interest in the dairy industry of western Lenawee County. Her father worked for Helvetia in Hudson during the early decades of the twentieth century. Hazel made my life so much

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easier by having already gone through the *Hudson Gazette*, clipping every turn of the twentieth century reference to cheese factories and pasting them on three by five cards.

When my sister and brother were in high school, both of them made friends at one time or another with the families that lived in the big brick house on the hill near Sand Creek, which led in turn to my association with someone who greatly assisted with this research. I knew of the Horton family from reading county histories, but I didn't know much about them until my brother, Brion Dickens, creating a haunted house with his friends for Halloween in 1984, came home and told me about the signatures in the tower of that big brick house. This I had to see. Yes, up in the corner of the tower were written the names of the man who built the house, George Byron Horton, and his wife and children. I had to know more. So did another woman who later lived in the house, Carolyn Holden. Carolyn's research and scrapbooks have been invaluable to this dissertation. She has interviewed Horton family members and copied family documents and photographs, and she knows more about the Hortons than any state record could ever reveal.

There are a number of residents in the four townships surrounding the Horton farm that are professional local historians. Not only are they collectors, but also writers, and moreover they are willing to share what they know. Vera Covell has been writing about Fairfield Township for more than half a century. She is responsible for saving Baker family history in Lenawee County, donating much of its supporting documents to the Lenawee Historical Museum in Adrian. Barbara Sell and her sister Elaine Rozo Bueno continue to care for and add to their father Leslie Sell's collection of Sand Creek history. Margaret Keenan Poucher works at preserving her family records related to barn

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building in the area. (A whole other dissertation is waiting to be written about the relationship of early twentieth century barn building and the expansion of the four townships' dairy industry.) The Robert Anderson family was more than willing to teach me about milking cows. And Lee Lewis Walsh of Words Plus Design has become an honorary part of the Sand Creek community over the last ten years by helping my words about this most unique place come alive.

Lastly, there is my own family, who each in his or her own way supported my efforts to complete this dissertation: My late father, Roy Dickens, who kept asking when I was going to finish. I am sorry both he and my mother, Marian Dickens, did not live to see this work finished or me graduate. Various aunts, uncles, and cousins, who provided encouragement along the way; a special thanks to my cousin, Lynn Bristol, who used her skill doing spreadsheets for the IRS to format the raw data of the cheese inspectors' reports into useable blocks of information. Finally, thanks to my ever-vigilant sister, Kileen Mohr, who proofreads all my books and is my local contact for photographs, for another excellent job.

Several years ago I started reading the acknowledgement sections of various books, mostly out of curiosity to see whom the authors thanked and why. Consistently, I noticed that the most important person in their lives was always mentioned dead last. I wondered about this until a few years ago when a very significant person came into my life, my husband of five years, Eric S. Perkins. Many of our first dates were spent tracking down cheese factories. An archaeologist, Eric helped me look for foundations of long-forgotten buildings and drainage ditches. He climbed into barn lofts over wagons full of baled hay to take pictures of cheese graffiti; he has searched through museum

times and taken p

He is my biggest fan

so much fun!

archives and taken photographs for PowerPoint presentations, which he helped to design.

He is my biggest fan. Without him, writing this dissertation would not have been nearly as much fun!

Laurie Catherine Dickens
Sand Creek, Michigan
Lenawee County
May 2010

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**CHEESE FEVER:
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INTRODUCTION

Prior to the American Civil War, most cheese produced in Michigan was made by farm women for home use with limited neighborhood sales. In 1866, through the encouragement of newly appointed secretary of the State Board of Agriculture (SBA), Sanford Howard, several Lenawee County dairymen began the commercial production of “Soft Michigan” cheese.

Sanford Howard arrived at Michigan’s Agricultural College (MAC) in the spring of 1864. Within months, Howard sent a letter to Michigan’s local agriculturalists asking them to identify their current production rates in a variety of commodities. Howard wished to learn the state of Michigan’s agriculture economy and where it could be improved with assistance from MAC.

Fourteen farmers, mostly from the southern three tiers of Michigan counties, replied that wheat—despite soil depletion and disease—was producing well and that wool was continuing to provide a good income. Fruit orchards—apples, peaches, and pears—were present in all responding counties with surpluses sold in the larger markets of Chicago and Detroit. Cattle and hogs did well, but farmers had not invested in pure breed stock. What surprised Howard the most was the general lack of interest in dairying—especially in the factory system of cheese production. The farmers who responded to Howard’s questions openly admitted that they were not interested in cheese

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Howard wasted little time in extolling the virtues of the commercial cheese factory system to Michigan’s farmers. Dairying, Howard felt, would take Michigan’s post–Civil War agricultural economy in a new direction. In his role as SBA secretary, Howard would work to align Michigan’s dairymen with the educational, scientific, and technological interests at MAC. He had no idea, when he proposed the commercial manufacture of cheese by the factory system, whether Michigan’s dairymen would take to this new idea. How and why Howard’s proposal of making cheese by the factory system was adopted by Michigan’s post–Civil War farmers is the subject of this dissertation.

The first section of the dissertation will examine the conditions that created the cheese factory system during the nineteenth century in southeast Michigan, and the second section will explore the roles of government, education, science, and technology that allowed the factory system to grow so rapidly after Howard first proposed his idea to Michigan’s dairy farmers.

To focus the answer to the questions of how and why the factory system worked in the production of commercially made cheese, a case study will be provided within each chapter. Because Fairfield Township, Lenawee County is considered the birthplace of the commercial cheese factory system in Michigan, each case study will in some way relate to either Lenawee County or Fairfield Township and other neighboring townships.

Michigan’s climate and topography were ideally suited to dairy production. Early settlers in southeast Michigan looked for land that would provide them with an income,

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¹ Keith R. Widder,
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but necessity dictated that they plant corn and wheat first—corn to eat and feed their stock and wheat for cash. Though surrounded with ideal conditions for dairying, little thought was given during Michigan’s antebellum period to the implementation of the cheese factory system beyond a home dairy run by women. Chapter one of this dissertation will explore the region’s early settlement patterns, the creation of its market centers, and lay out the “ideal” conditions needed for cheese production.

Near the end of Michigan’s settlement period, state agriculturists felt the need to establish a college for the study and creation of knowledge in the field of agriculture. The state’s agriculturists felt that such a college would not only increase the knowledge of the state’s farmers, but also provide an opportunity for the education of their children, giving them a basic knowledge of agriculture. Included in chapter one will be a discussion of the founding of MAC in 1855.

Key to MAC’s legislative authority was the position of secretary to the SBA. The secretary was to carry out duties that would link the college to different constituencies throughout the state, thereby applying findings on the college’s farm and in the laboratory to the lives of people living in rural and urban Michigan.¹ With great urging by SBA secretary Sanford Howard, Michigan farmers interested in dairying took up the challenge to implement the cheese factory system.

In 1866, Howard was able to convince Rufus Baker of Fairfield Township in Lenawee County to build the first cheese factory in Michigan. A second Fairfield Township cheese maker, Samuel Horton, immediately followed Baker in the commercial production of cheese. Once the cheese factory system could be replicated, other dairymen

¹ Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), p. 43.

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took up the challenge. Over the next forty years, more than twenty-five cheese factories would be established in Lenawee County, all modeled on Baker's first factory.

These factories were organized as stock companies, similar to Michigan's early mining concerns. Local farmers and businessmen were offered stock in a local cheese factory as a quick way for the factory owner to capitalize his operation. In many cases, the dairymen providing raw milk to the factory—known as patrons—were the first to buy stock. Patrons received cash for the purchase of their raw milk and cash for their stock when the factory did well, an arrangement that proved lucrative for local dairy farmers. Chapter two of this dissertation will examine how the cheese factory system was organized using the Dover Center Cheese Factory, owned by Martin Stockwell of Dover Township, Lenawee County, as an example.

Once a cheese factory went into production, selling its product was extremely important. Jacob Baker, of Raisin Township, Lenawee County, opened the Raisin Union Cheese Factory in 1874. Baker was a cousin of Rufus Baker, of Fairfield Township, and was a Quaker. To date, only the records of the Raisin Union Cheese Factory are known to survive. Jacob Baker's correspondence reveals some of the inner workings of a local commercial cheese factory, including quantities and qualities of cheese produced, how cheese was marketed, and to what locations.

All twenty-six of Lenawee County's turn-of-the-twentieth-century cheese factories produced one kind of cow's milk cheese. Referred to as "Soft Michigan" cheese, the cheese could best be described as follows:

"Michigan cheese, the genuine Michigan, found nowhere else on earth; soft, mild, porous, good in twenty days or safe for sixty. The cheese that pleases the eye of the maker, and tickles the palate of the consumer,

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cannot be made without the use of two articles; one supplied by the cow—pure milk—the other by the man who handles the product, gumption.”²

Other descriptions of “Soft Michigan” cheese included:

“‘Soft Michigan’ cheese has holes of varying sizes, is soft as opposed to the hard texture of cheddar, ranges in color from white through shades of yellow and red, is not made by the cheddar process, is without an acid taste, and is well-liked by those from the state that shares its name.”³

Where the original recipe came from or why the region settled on this type of cheese may never be known. What is known is that Lenawee County dairy farmers invested heavily in the production of “Soft Michigan” cheese, taking great pride in a cheese that only they could produce. Chapter three of this dissertation will examine the process of making “Soft Michigan” cheese using the recipe taken from the 1905 Dairy and Food Commission inspector Charles O. Bradley’s report on cheese factories in Lenawee County. By following the recipe for this particular cheese, various advancements in the science and technology of commercial cheese making will be noted. The Babcock Test, the Wisconsin Curd Test, and the development of commercial rennet are several of the scientific advancements. Steams vats and steel gang presses, allowing for greater production volumes, are among the technological improvements introduced during this time period.

Almost from the beginning, the Michigan legislature became involved in commercial cheese production. Already mentioned is the formation of cheese factories on the stock company model. Later would come annual cheese factory licensing fees and

² *State of Michigan, Dairy and Food Commission, Bulletin No. 16, December 1896* (Lansing, MI: Robert Smith and Co., 1896), p. 8.

³ Author’s description created from a multitude of sources.

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finer for the adulteration of milk. As the nineteenth century drew to a close, public concern over the common food supply grew. In response, the Michigan legislature established several new governmental departments to address these public concerns, among them the Michigan State Board of Public Health and the Dairy and Food Commission.

Chapter four of this dissertation will examine the role of state government in the creation of these new departments, the selection of department heads based on Republican Party loyalty, and the position of the Dairy and Food Commission inspectors. Because of his carefully written reports, it will be possible to follow the work of one man, Charles O. Bradley, on his cheese factory inspection tour of Lenawee County during the summer of 1905.

One problem cheese makers faced at the turn of the twentieth century was the unpredictability of their product. While the recipe was the same factory to factory in southeast Michigan, no two factory cheeses were exactly alike. The problem of uniformity concerned many dairymen, as well as the faculty at MAC. How to teach and consistently replicate both the process and the product plagued all concerned.

Clinton D. Smith, professor of Practical Agriculture and superintendent of the Farm, arrived at MAC in 1893. His keen interest in dairying helped to grow MAC's dairy herd and its dairy infrastructure, and created a short course of study for most of the college's agriculture-related programs. The first "Short Course" began during the winter term of 1894 and ran for six weeks; later a four-week course in cheese making would be added. The short course in cheese production lasted until the early 1920s. At its height, at least twenty students took the six-week and later four-week short course in cheese

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Ironically, women, who had learned the art of cheese making in the home dairy, were not allowed to take the short course on cheese making offered at MAC. However, in 1915, near the program’s end, a woman, Alison Ransford, was hired to teach the general cheese-making course. Staying a little more than three years, she left MAC to teach at the state of Illinois experimental farm.

Ultimately, six of Lenawee County’s twenty-six cheese makers would take the short course in cheese making at MAC. Only two of them were still employed in the dairy industry in the 1920s. Both of these men operated a general dairy producing cheese, butter, and ice cream.

The last chapter of this dissertation examines the decline of the commercial cheese factory system in southeast Michigan during the first decades of the twentieth century. While cheese making continued to be taught at MAC, both in the short course and the general dairy program, fewer and fewer students showed interest in commercial cheese production.

Several factors may have contributed to the decline in student interest. First, more students were taking general agricultural short courses, partly because of the modernization of their family farms. It was during the early decades of the twentieth century that steam and later gasoline-powered farm machinery came into wider use. Electrical power for farms closer to urban centers brought electric milking machines. Science brought better plant and animal breeds. Knowing how all these modern

⁴ *Michigan State Agricultural College, Catalogue of Officers and Graduates, 1903-1904* (Lansing, MI: Michigan State Agricultural College, 1904), p. 40.

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advancements worked became even more important to the next generation of Michigan farmers. Further, urbanization created more jobs away from the farm and with it more opportunity for leisure and entertainment previously unavailable to rural youth.

As the thirty-year incorporation limit began to run out on the local commercial cheese factories, fewer and fewer owners decided to remain in business. Those staying in bought out their neighbors. The process of cheese making began to consolidate around one or two individuals rather than a small group of local farmers. One such individual was Michigan's Republican governor, Fred M. Warner. A resident of Farmington, Michigan, Warner owned thirteen cheese factories at the beginning of the 1920s, which supplied Detroit with vast amounts of cheese. He used the governor's office as a bully pulpit for the state's dairy industry, enacting new dairy laws, strengthening the power of the Dairy and Food Commission, and supporting himself for re-election.

How well those new laws would work was tested in the spring of 1916, when a group of Bath, Michigan residents met for a picnic on their local school grounds. Following the picnic, several Bath residents contracted typhoid fever and died. Because of the tracking systems implemented by the Dairy and Food Commission decades earlier, the contamination was discovered to have come from cheese made at the Marion Springs Cheese Factory, some fifty miles from Bath. The ability to isolate the contaminated factory prevented more deaths.

World War I opened a global market for Michigan's milk supply. The need for condensed and evaporated milk products, for both military and civilian populations, soared. Farmers that once delivered their milk to the local cheese factory now sold milk

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During this time, Michigan's dairymen began to divide themselves into producers and processors, splitting the older organized Michigan Dairymen's Association. In 1916, a group of Michigan's dairymen formed the Michigan Milk Producers Association (MMPA); members were guaranteed a fair price for their product, selling their milk to their own bottling plants. Loosely organized, a flow of milk could now pass from the individual farm to the bottling plant and then to Michigan's largest market, Detroit. MMPA bottling plants dealt with the City of Detroit's milk inspector, not the individual dairy farmers.

In 1922, a third generation Lenawee County, Michigan cheese maker, Norman Bradish Horton, entered politics. Serving ten years in the Michigan legislature, Horton would enact two laws of interest to this dissertation. The first law Horton sponsored was a "cheese law" that legislated out of existence the production of "Soft Michigan" cheese. The second law changed the name of MAC to Michigan State College, setting the stage for the university era that would follow.

Soon after taking office in 1921, Michigan's Republican governor Alexander J. Groesbeck instituted a series of departmental reorganizations that created the new Michigan Department of Agriculture, into which was folded the Dairy and Food Commission, creating the need for all sorts of agriculture-related inspectors.

In one hundred years, cheese production had gone from the farmhouse kitchen table to the industrial processing plant. The cheese factory system introduced to Michigan's farmers by Sanford Howard in 1866 had served its purpose, transforming

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Michigan's agricultural economy from wheat and wool to dairy. Government regulation and MAC's ability to generate new science and technology turned the home-based craft of cheese making into an industrialized science.

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Michigan's southern three tiers of counties were ideally suited for dairy production. Bordered on both the east and west by a Great Lake, well drained by inland waterways, flat from prehistoric lake suppression but slightly rolling from glacial recession, the moderate climate proved ideal for grazing and hay production. The availability of cheap land during the early decades of the nineteenth century brought thousands of potential farm families from depleted farms in New England and New York, as well as merchants interested in building communities. The Sauk Trail (now US12) became the major highway through southern Michigan after the War of 1812. Commodities began to move along this route to and from Chicago and Detroit, both ports on one of Michigan's Great Lakes. With the opening of New York's Erie Canal in 1825, the region had access to eastern and international markets.

Lenawee County was created by Michigan's Territorial Legislature in 1822; its settlement was typical of the pattern found across the southern tier of counties. In the case of Lenawee County, however, an unusually high number of residents came from New York State's central dairy region. Raymond LaBounty Puffer, in his unpublished dissertation, "The Michigan Agricultural Frontier: Southeastern Region, 1820-1860"⁵ duly notes the growth of Lenawee County during the antebellum period. Puffer's

⁵ Raymond LaBounty Puffer, "The Michigan Agricultural Frontier: Southeastern Region, 1820-1860." Ph.D. dissertation, University of New Mexico, Albuquerque, NM, 1976.

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exploration of southeast Michigan's climate and topography proved beneficial to the first chapter of this dissertation, as did Puffer's description of Lenawee County's market centers Blissfield, Tecumseh, Adrian, and Hudson, including how these communities were connected by water, highway, and railroad transportation networks.

Collaborating Puffer are county historical records and biographical sketches of Lenawee County settlers found in later nineteenth century editions of Chapman Brothers, Bonner, Whitney, Knapp, and Hogaboam—though often suspect because of the nature of being written and paid for by the subjects.⁶ Other historians to examine Lenawee County's early settlement patterns include the late Doris Alverson Frazier, whose 1965 master's thesis is the first—though unpublished—history of the county.⁷

Lenawee County is divided into twenty-two townships. Passing diagonally from northeast to southwest is a glacial ridge that separates the more rolling land above the ridge from the more flat land below the ridge. Four townships, which are the focus of this dissertation, lie mostly below the ridge in the central portion of the county. The last of the townships in Lenawee County to be settled, these four townships are Dover, Madison, Fairfield, and Seneca. While dairying occurred in all four townships, Fairfield Township became the center of Michigan's commercial cheese production soon after the Civil War. Only one general local history of these four townships has been published, that by this

⁶ Chapman Brothers, *Portrait and Biographical Album of Lenawee County, Michigan* (Chicago: Chapman Press, 1888). Richard I. Bonner, *Memoirs of Lenawee County Michigan, Vol. I and Vol. II* (Madison, WI: Western Historical Association, 1909). James J. Hogaboam, *The Bean Creek Valley Incidents of its Early Settlement* (Hudson, MI: James M. Scarritt, 1876). John I. Knapp and R. I. Bonner, *Illustrated History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: The Times Printing Co., 1903). W. A. Whitney and R. I. Bonner, *History and Biographical Record of Lenawee County, Michigan, Vol. I* (Adrian, MI: W. Stearns and Co., 1879 and 1880).

⁷ Doris Alverson Frazier, "Lenawee County 1823-1860." Master's thesis, Siena Heights College (University), Adrian, MI, 1965.

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author in 2006.⁸ Nothing has been written about the impact of commercial cheese production on these four townships, until this dissertation.

Other historians to examine this area include Fairfield Township residents Carolyn Holden and Vera Covell. Holden compiled the family history of George Byron Horton, a central figure in both Fairfield Township and Michigan's commercial cheese production. Covell's research centers on the founding of Fairfield Township through the history of Moses, John, David, and Orrin Baker, a family instrumental to the workings of the commercial cheese factory system in Lenawee County.⁹

To further summarize the conditions that allowed for the commercial production of cheese in Lenawee County, the following sources were also examined: 1870 United States Agricultural Census, Schedule 3—Productions of Agriculture in the County of Lenawee, Michigan; Sanford Howard's *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1866*; and Richard H. Sewell's article for *Michigan History Magazine*, "Michigan Farmers and the Civil War." Keith R. Widder's sesquicentennial history of MAC gives insight into Sanford Howard's role as SBA secretary and the relationship SBA had with Michigan's dairymen.¹⁰

Commercial production of cheese by the factory system began in Fairfield Township, Lenawee County, Michigan in the spring of 1866. Rufus Baker, the first to

⁸ Laurie Catherine Perkins, *In the Center of Four Townships: The History of Sand Creek, Michigan* (Blissfield, MI: Made for Ewe, 2006).

⁹ Mrs. Edgar (Vera) Covell, "Fairfield Township" and "Fairfield Village Formerly Baker's Corners." Collection of Mrs. Edgar (Vera) Covell, Fairfield Township, Lenawee County, MI. Carolyn Holden, *George B. Horton and The Grange (Seeds of Time No. 12)* (Adrian, MI: Lenawee County Historical Society, 2003).

¹⁰ 1870 United States Agricultural Census, Schedule 3—Productions of Agriculture in the County of Lenawee, Michigan. Microfilm. Archives of Michigan, Lansing, MI. Sanford Howard, *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1866* (Lansing, MI: John A. Kerr and Co., 1866). Richard H. Sewell, "Michigan Farmers and the Civil War," *Michigan History Magazine* (December 1960). Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005).

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¹¹ *Records of the*
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manufacture cheese by this method, was soon followed by Samuel Horton, also of Fairfield Township. Primary sources proved critical to the documentation of the early stages of commercialization in the second chapter of this dissertation.

Maps of Lenawee County's twenty-two townships dating from the 1870s are clearly marked with the locations of local cheese factories. These locations were then compared with Articles of Association Records, housed in the Lenawee Historical Museum in Adrian, Michigan. Following legislation for the incorporation of stock companies owned by Michigan's mineral concerns, Articles of Association Records revealed who owned stock in the local cheese factories, who owned each factory, how much of the stock went to capitalize the factory and when and where annual meetings were held. Lists of stockholder names, located on township maps, corroborate cheese factory locations.¹¹ Information provided on township maps and in the Articles of Association Records helped build the documentation for the Dover Center Cheese Factory owned by Martin Stockwell of Dover Township, Lenawee County.

A second, better-known and well-documented Lenawee County cheese factory was that owned by Jacob Baker of Raisin Center, Raisin Township. Baker began the commercial production of cheese at the Raisin Union Cheese Factory (RUCF) around 1874. Housed in the Lenawee Historical Museum are the business correspondence and personal letters describing both the daily operation of the RUCF and Baker's growing interest in becoming a Quaker elder. Baker's wish to become an elder may have

¹¹ *Records of Religious Societies and Etc., Number One, Lenawee County, Michigan*. Collection of the Lenawee Historical Society and Museum, Adrian, MI. Other volumes in this series are located in the Archives of Michigan, Lansing, MI. Volume One begins in 1854 and continues through the 1920s. *Combined Atlases of Lenawee County* (Mt. Vernon, IN: Windmill Publications, Inc., 1997).

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occasionally distracted him from his tasks at the RUCF. His abilities as a cheese maker are somewhat difficult to discern from the primary sources related to the RUCF.

Customer requests for RUCF cheese came from all over southeast Michigan, as well as various locations in Ohio and Indiana, and New York City. Both successful and unsuccessful interactions with his various clients are revealed within Baker's RUCF correspondence. County and regional maps connecting RUCF correspondence identified railroad transportation networks, verifying the distance between Baker's cheese markets, their locations, and volume of sales in any given market.¹²

Descriptions of other cheese factories located in Lenawee County during the early phase of commercialization may be taken from the 1905 Dairy and Food Commission inspector's reports for Lenawee County. Each of the twenty-six cheese factories identified in those reports provides a physical description of the factory, date of construction, and period of operation. While no other detailed records of commercial cheese factory operations have surfaced in Lenawee County beyond those of the RUCF, the information from the 1905 Dairy and Food Commission inspector's reports proved invaluable to identifying cheese factories in Lenawee County old enough to be a part of the early commercialization phase. Should other primary sources, like those of the RUCF, surface in the future, joining them with the 1905 Dairy and Food Commission inspector's reports would serve as a starting point for further research.¹³

¹² Personal Papers of Jacob Baker, Secretary of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI. Series dates from 1870 to 1885. Records of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI. Series dates from 1870 to 1885.

¹³ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Three ledgers of printed and handwritten forms related to the work of the Dairy and Food Commission. RG-2002-81, Box 2, Inspections of Cheese Factories, 1905-1907, Archives of Michigan, Lansing, MI (Michigan Legislature—Transfer from Library of Michigan to Archives of Michigan in 2002).

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Once the local commercial cheese factories were established in Lenawee County, the daily task of making cheese began in earnest. Chapter three of this dissertation will examine how the local commercial cheese factory made cheese and what type of cheese was being made. Southeast Michigan cheese makers produced a very unique product known only as “Soft Michigan” cheese. What this cheese looked or tasted like is no longer known; however, the process of cheese making is basic to all types of cheese. Milk—goat, cow, sheep—is cooked to a certain temperature, a rennet is added to separate the curds from the whey, and the curds are pressed into a cheese, which is allowed to age for a certain number of months or years.

The process for producing cheese commercially is outlined in great detail in Steven K. Hamp’s unpublished master’s thesis, “From Farm to Factory: The Development of Equipment and Process in the American System of Cheese Manufacture” (1978). His thesis focuses primarily on nineteenth century factory cheese production in the state of New York, which is contemporary with cheese factory production in Michigan. He describes in detail the process of making cheese and the variety of tools and equipment necessary for the process. Information provided by Hamp’s thesis was compared to process descriptions found in the 1905 Dairy and Food Commission inspector’s reports; to contemporary photographs and museum exhibits; and to small, modern, locally operated cheese factories in Ohio and Canada, all confirming the process of producing factory-made cheese at the turn of the twentieth century.¹⁴

¹⁴ Steven K. Hamp, “From Farm to Factory: The Development of Equipment and Process in the American System of Cheese Manufacture.” Master’s thesis, University of Michigan, Ann Arbor, MI, 1978. 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Three ledgers of printed and handwritten forms related to the work of the Dairy and Food Commission. RG-2002-81, Box 2, Inspections of Cheese Factories, 1905-1907, Archives of Michigan, Lansing, MI (Michigan Legislature—Transfer from Library of Michigan to Archives of Michigan in 2002).

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The 1905 Dairy and Food Commission inspector's reports revealed for the first time the "recipe" for making the particular type of cheese made in Lenawee County at the turn of the twentieth century, "Soft Michigan" cheese. The author tried on several occasions to have various cheese factories, both re-created and modern, reproduce the recipe; only one attempt by a living history farm near Chicago proved successful. Time and distance from the author's home deterred the personal examination of this cheese.

Fortunately for historians, government must make an annual public accounting of itself by law. At the turn of the twentieth century, almost every branch or department of Michigan's government made comment on some aspect of the state's agriculture. Chapter five of this dissertation will explore the role of Michigan's governmental agencies in the commercialization of cheese under the factory system. These annual government reports are collected in the Library of Michigan at Lansing. A boon to the historian, they report on everything from the opening prayer of the annual meeting of the Michigan Dairymen's Association, to labor statistics and factory inspections, to those individuals and companies fined for the adulteration of food products, and to the almost annually instituted dairy laws.

Examining these government documents, both with and against each other, allows for the most concise accounting of how Michigan's legislative and executive branches viewed the state's dairy industry. Coupled with other government documents such as public letters and departmental memos held by the Archives of Michigan, the formation

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¹⁹ Keith R. W
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of the state's Dairy and Food Commission may be readily seen. However, a caution to researchers is the bias contained in these printed government documents.¹⁵

In 2005, Michigan State University celebrated its sesquicentennial. In commemoration of that event, historian Keith R. Widder published the first of three co-authored texts on the history of the university. Widder's *Michigan Agricultural College: The Evolution of a Land Grant Philosophy, 1855-1925* (2005) proved insightful for this dissertation. Widder laid out the establishment of Michigan's agricultural college as a land grant institution and in later chapters discussed the growth of the college's short course and dairy programs.¹⁶

Coupled with Widder's text is a history of the college in its sixtieth year authored by botany professor William J. Beal, *History of the Michigan Agricultural College and Biographical Sketches of Trustees and Professors* (1915). Beal's illustrated biographical sketches of the college's trustees, professors, and staff provide great insight into how many of the college's departments were created, who spearheaded major projects, as well as the inner workings of the college.¹⁷

The fifth chapter of this dissertation will examine the role Michigan Agricultural College played in the development of the state's dairy industry. Vital to the exploration

¹⁵ *Annual Report of the Auditor General of the State of Michigan, 1893-1895, Public Acts and Joint and Concurrent Resolutions of the State of Michigan, 1893-1905, Annual Report of the Bureau of Labor and Industrial Statistics, 1904-1906, Annual Report of the State of Michigan Civil Service Commission, 1938, State of Michigan, Dairy and Food Commission, Bulletins No. 1-25, Annual Report of Dairy and Food Commissioner, 1894-1904, Michigan Department of Public Health, 1906, Annual Report of the Secretary of State related to Farms and Farm Products, 1891-1901, Annual Report Michigan State Board of Health, 1904, Annual Report of the State Board of Agriculture, 1866-1921, Inaugural Speeches Michigan Governors, Annual Reports of Michigan Dairymen's Association, 1896-1906.*

¹⁶ Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005).

¹⁷ William James Beal, *History of the Michigan Agricultural College and Biographical Sketches of Trustees and Professors* (East Lansing, MI: The Agricultural College, 1915).

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of MAC's role are the annual reports of the secretary of the SBA and the college's course catalogues, copies of which are found in the Library of Michigan. The college's course catalogues provide lists of dairy short-course graduates. These lists of graduates, when compared to the 1905 Dairy and Food Commission's inspector reports, establish the educational background of Lenawee County's cheese makers at the turn of the twentieth century. Once the educational background of the various cheese makers was known, the information was then applied to the *Farm Journal Illustrated Rural Directory of Lenawee County, Michigan, 1916-1921* (1921) to determine how the dairy short-course graduates used their training over the span of their cheese-making careers.¹⁸

By 1925, only two commercial cheese factories were still producing cheese in Lenawee County. What had once been a thriving business for producers and consumers was nearly gone. The final chapter of this dissertation will explore the decline of cheese production in southeast Michigan, in particular in Lenawee County. As in chapter five, MAC's course catalogues will be examined and compared to SBA annual reports and those of other governmental departments, including those of the Dairy and Food Commissioner.

Several major contributors to the commercial manufacture of cheese in southeast Michigan will be discussed in this concluding chapter. Among them is the role of one of Michigan's young Progressive Republican governors, Fred M. Warner, who served three

¹⁸ *Farm Journal Illustrated Rural Directory of Lenawee County, Michigan, 1916-1921*, (Philadelphia, PA: Wilmer Atkinson Co., 1921). *Catalogue, Officers and Students of the Michigan State Agricultural College, 1865-1925*. *Annual Report of the State Board of Agriculture, 1865-1925*.

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terms near the beginning of the twentieth century. As a commercial cheese manufacturer, Warner took the side of Michigan's dairymen whenever he could. Little has been written about Warner's political career or his involvement in commercial cheese production. Jean M. Fox, a resident of Farmington, Michigan, Warner's hometown, chronicled the governor's career in her 1988 book, *"I Went to the People..." Fred M. Warner, Progressive Governor.*

In 1922, the patriarch of the second generation of the Horton family to manufacture cheese in Lenawee County died. George Byron Horton lived a life firmly connected to his agricultural roots. Owning 1,500 acres of land, some of it still virgin forest, and nine cheese factories in Seneca and Fairfield Townships, Horton had become a leader in the dairy industry, the Michigan Grange, the Republican Party, and the state's and county's agricultural societies.

Horton educated his two sons at MAC and situated them well for whatever career in life they would choose. Both sons, Norman and Samuel, tried following in their father's footsteps, but neither man had an interest in farming. A politician, Norman was elected to the Nineteenth District Senate seat in 1921, serving Lenawee County residents until 1932, while Samuel, a businessman, lived most of his life outside of Michigan, supporting various family business ventures. Carolyn Holden's scrapbooks related to the Horton family were invaluable to this dissertation. Over a fifteen-year period, Holden collected newspaper clips, family papers, photographs, and genealogies, as various

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members of the Horton family came to visit what was left of their grandfather George Byron Horton's farm.¹⁹

While this is by no means an exhaustive list, the following texts proved to be of great benefit to this dissertation. Most of these texts were written in the last fifteen years, when the scholarship related to agricultural themes was expanding to include a greater focus on women, politics, the Midwest, and the role of agricultural education. This dissertation comes as historians and agriculturalists alike are exploring the role of food in shaping and reshaping American culture.

The impetus for this dissertation came from Joan M. Jensen's *Loosening the Bonds, Mid-Atlantic Farm Women, 1750-1850* (1986).²⁰ Jensen explores the role of Pennsylvania farm women and their use of butter production to gain economic and social independence at the turn of the nineteenth century.

¹⁹ Edward D. Rich, *Michigan Department of Health: A Typhoid Fever Epidemic Traced to Cheese* (Lansing, MI: Michigan Department of Health, 1925). Jean M. Fox, "I Went to the People..." *Fred M. Warner, Progressive Governor* (Farmington Hills, MI: Farmington Hills Historical Commission, 1988). *Catalogue, Officers and Students of the Michigan State Agricultural College, 1896-1925. Annual Report of the State Board of Agriculture, 1865-1925. Annual Report of the Michigan Dairymen's Association, 1896-1906.* Personal Papers of George Byron Horton, Fairfield Township, Lenawee County, Michigan. Collection of the Bentley Library and Historical Collections, University of Michigan Ann Arbor, MI. 1900-1920. Scrapbook compiled by Haviland Family. Consists of newspaper clippings related to the social and economic interests of Fairfield, Dover, Madison and Seneca Townships, 1900-1905. Scrapbook history of the George Byron Horton Family compiled by Carolyn Holden. Consists of photographs, wills, essays, deeds, and newspaper clippings on three generations of the Horton family. Letter to the Honorable John T. Rich, Governor of Michigan from E. A. Stowe, *The Michigan Tradesman*, June 24, 1893. RG 44, B55, F1 and F2. Appointments, State Offices, Boards and Commissions, Dairy and Food Commissioners. Archives of Michigan, Lansing, Michigan. Letter to the Honorable John T. Rich, Governor of Michigan, from Robert Clark Kedzie, May 29, 1895. RG 44, B55, F1 and F2. Appointments, State Offices, Boards and Commissions, Dairy and Food Commissioners. Archives of Michigan, Lansing, Michigan. Letter to the Honorable John T. Rich, Governor of Michigan, from George W. Jenks, June 3, 1895. RG 44, B55, F1 and F2. Appointments, State Offices, Boards and Commissions, Dairy and Food Commissioners. Archives of Michigan, Lansing, Michigan. Letter to T. F. Marston, Bay City, Michigan, from Gilman M. Dame, March 1, 1911. Correspondence, State Officers, Dairy and Food Department, 1911-1912 RG-45, B4-F8, Archives of Michigan, Lansing, Michigan. *Michigan Dairy Farmer*, "Resolutions Adopted at the 27th Annual Meeting of the Michigan Dairymen's Association" (March 1911). RG-45, B4, F8, Correspondence, State Officers, Dairy and Food Department, 1911-1912. Archives of Michigan, Lansing, Michigan.

²⁰ Joan M. Jensen, *Loosening the Bonds, Mid-Atlantic Farm Women, 1750-1850* (New Haven, CT: Yale University Press, 1986).

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Continuing Jensen's thread to the turn of the twentieth century in relationship to Michigan had been the original intent of this dissertation, but primary sources for women in dairy production for this time period were difficult to obtain to the depth that would be needed. Jensen's work serves two purposes for this dissertation: one, in the continuation of farm women in dairy production throughout the nineteenth century, and two, in the possibility that some of Jensen's Pennsylvania farm women were part of the great migration to Michigan after the opening of New York's Erie Canal in 1825.

Had more documentation been available on Michigan's nineteenth century dairy women, a continuation of Jensen's themes was the intent of this author. With the lack of such documentation, however, the purpose of this dissertation shifted to an exploration of the processes by which cheese production evolved from a craft associated with women to its commercialization at the turn of twentieth century as an industry dominated by men.

While the production of cheese by the factory system brought change to the home dairy industry at the turn of the twentieth century, farm production as a whole was changing as well. Mary Neth's *Preserving the Family Farm: Women, Community and the Foundations of Agribusiness in the Midwest, 1900-1940* (1995)²¹ looks at the role of farm women in the creation of the agricultural economy of the early decades of the twentieth century. She examines the "separate spheres" of farming men and farming women, and how both worked separately, but in tandem, to maintain a farm economically in a local setting. Until the advent of the factory system for cheese production, the subjects of this dissertation were working within what Neth has documented as their defined roles.

²¹ Mary Neth, *Preserving the Family Farm: Women, Community and the Foundations of Agribusiness in the Midwest, 1900-1940* (Baltimore, MD: The Johns Hopkins University Press, 1995).

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Lucina Perkins Horton first marketed her cheese for “butter and egg” money. Once her business proved successful and was supportable by the early stages of the factory system, Horton taught male factory workers to make cheese rather than make it herself. As the factory system advanced, Horton left dairy production to pursue other aspects of her farm’s operation and to raise her three children. Her daughter-in-law, Amanda Bradish, never made cheese in the factory system, but benefited from its production economically, as did her daughters who would later leave farming altogether.

Michigan’s post–Civil War politics was dominated by members of the Republican Party at all levels of government. Martin J. Hershock’s *The Paradox of Progress, Economic Change, Individual Enterprise, and Political Culture in Michigan, 1837-1878* (2003)²² lays out the establishment of Michigan’s Republican Party as the state moved through the antebellum period. Understanding how Michigan became a predominately Republican state deepened the contextual thought of this dissertation in relationship to its subjects and their motives in support of the cheese factory system mentioned here.

As the nineteenth century drew to a close, the party of Lincoln became more progressive in its views. Legislative reforms ranged from immigration, to woman’s suffrage, and to the poor. Understanding Progressives and Progressivisms is one of the more challenging aspects of researching American history. Michael McGerr’s *A Fierce Discontent, the Rise and Fall of the Progressive Movement in America, 1870-1920* (2005)²³ served as the basis of this author’s understanding of this particular era in American history. Turn of the twentieth century Progressivism impacted so many levels

²² Martin J. Hershock, *The Paradox of Progress, Economic Change, Individual Enterprise, and Political Culture in Michigan, 1837-1878* (Athens, OH: Oxford University Press, 2003).

²³ Michael McGerr, *A Fierce Discontent, the Rise and Fall of the Progressive Movement in America, 1870-1920*. (New York: Oxford University Press, 2005).

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of society on so many issues that were so often intertwined with each other that it is hard to keep players and issues sorted.

Maureen A. Flanagan's *America Reformed, Progressives and Progressivisms, 1890s-1920s* (2007)²⁴ is the most concise text to date to focus on the Age of Reform. Flanagan's text helped narrow this dissertation to the discussion of public health and food safety, a major issue for many reformers at the turn of the twentieth century, as evidenced by the passage of the Pure Food Act of 1906. The role of Michigan's government in relationship to the state's food supply throughout this period is deeply influenced by the factory system of cheese production.

Beginning in 1855, Michigan's agriculturalists worked to establish a college for the advancement of agricultural education. The study of agriculture as a science was a new field in the decades following the Civil War. Alan I. Marcus' *Agricultural Science and the Quest for Legitimacy* (1985)²⁵ explores the avenues of science opened through the nation's land grant universities. Only mentioning Michigan's Agricultural College in passing, Marcus' text deals mainly with eastern and southern colleges, although key to his commentary is the development of the role of the analytical chemist, a position created by MAC's Robert Clark Kedzie. The role of the analytical chemist served, as Kedzie defined it, to bolster the Progressive Republican platform for a safe public food supply, especially in Michigan.

²⁴ Maureen A. Flanagan, *America Reformed, Progressives and Progressivisms, 1890s-1920s* (New York: Oxford University Press, 2007).

²⁵ Alan I. Marcus, *Agricultural Science and the Quest for Legitimacy* (Ames, IA: Iowa State University Press, The Henry A. Wallace Series, 1985).

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Keith R. Widder's *Michigan Agricultural College: The Evolution of a Land Grant Philosophy, 1855-1925* (2005)²⁶ recounts Kedzie's efforts for a safer public environment. Widder also lays out, where Marcus could not, the role of MAC as an educational force in the establishment of such public forums as the Farmer Institutes and the agricultural short course.

The final two texts to influence the writing of this dissertation are cited here as models of research methodologies: Kenneth E. Lewis' *West to Far Michigan, Settling the Lower Peninsula, 1815-1860* (2002)²⁷ and Susan E. Gray's *The Yankee West, Community Life on the Michigan Frontier* (1996).²⁸ Both Lewis' and Gray's texts serve as models for the methodology of studying northern, Midwestern, and Michigan agriculture. Lewis' central place theory serves as a model for the commercialization of cheese production as the early producers sought to establish production, marketing, and transportation networks in southeast Michigan. Gray's work looks at a sample of four Michigan townships, which have in common that part of the "Yankee" philosophy that works to make a profit and, when that profit is exhausted, moves on the next economic opportunity. Gray's "Yankees," however, differ from those in the four townships of Lenawee County examined in this dissertation. The "Yankees" and "Yorkers" in Dover, Madison, Fairfield, and Seneca Townships chose to stay and continue to expand their wealth in their local community. This study of the commercialization of an agricultural commodity—in this case, cheese—studied on a local and regional level can further

²⁶ Keith R. Widder, *Michigan Agricultural College: The Evolution of a Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005).

²⁷ Kenneth E. Lewis, *West to Far Michigan, Settling the Lower Peninsula, 1815-1860* (East Lansing, MI: Michigan State University Press, 2002).

²⁸ Susan E. Gray, *The Yankee West, Community Life on the Michigan Frontier* (Chapel Hill, NC: The University of North Carolina Press, 1996).

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PART ONE:
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Early Enthusiasm for Michigan-made Cheese

To understand the early enthusiasm for Michigan-made cheese, one must understand the influence of location and topography. For millions of years, southeast Michigan was heavily impacted by glacial and lakebed migrations and recessions. The land, mostly clay and gravel, is rolling in some areas and extremely flat and marshy in others. A large watershed drains the region and, in the centuries to come, would create ideal pasture conditions for raising dairy cattle.

While native peoples had occupied southeast Michigan for millennia, European immigration and later migration would give order to the settlement of the land during the late eighteenth and early nineteenth centuries. Once surveyed into 160-acre sections, farmers from Canada and the eastern United States poured into southeast Michigan in search of cheap land. Most of these early settlers had firsthand knowledge of the dairy industry, but creating a cash crop such as wheat was their first priority.

As the settlement of southeast Michigan accelerated during the early nineteenth century, population clusters developed into market communities. People settled near others of shared interests and beliefs. As will be seen, a large population of New Yorkers settled in Lenawee County during the antebellum period; some of these settlers were members of the Society of Friends, also known as Quakers. Central New York had long been a center for the manufacture of cheese. Farm women from this region had become expert in home cheese production, which is both a craft and a science. Central New York

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farm women brought their cheese-making skills with them when they arrived in Michigan.

By the mid-1850s, southeast Michigan, with its well-established farms and bustling market centers, had acquired substantial capital to invest in well-placed public infrastructure—mainly highways and railroads. Now linked to eastern and European markets, farmers looked beyond substance agricultural to commodities that would produce larger profits. Dairying would prove ideal for such a venture.

Enter the Agricultural College of Michigan, located east of Lansing, the state's capitol. The college's Secretary of Agriculture, Sanford Howard, would push for the farmers of southeast Michigan to turn their attention to dairy farming, but the American Civil War would interrupt those plans. Ninety thousand men from Michigan would serve in that war, many of them born or raised in Lenawee County; among them was Robert Clark Kedzie. Trained as a doctor at the University of Michigan, Kedzie chaired the chemistry department of the Agricultural College of Michigan until 1902. During his tenure, Kedzie—along with others—would champion the cheese industry in southeast Michigan.

During Michigan's early settlement phase, the majority of southeast Michigan residents, as yeoman farmers, supported Jeffersonian Democratic values, returning Democrats to the governor's office in every election but two from 1835 to 1854. With war clouds thundering in the distance and firsthand knowledge of the evils of slavery through participation in the Underground Railroad movement, the region's voters began a shift toward more Republican ideals.

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This shift in political thought gained momentum through the region's predominately Quaker, Free Will Baptist, and Methodist populations, who were white and of northern European stock, filtered through the politics of their service to the American Revolution and life in the eastern United States.²⁹ Leaders in southeast Michigan looked to form a new political party, doing so "Under the Oaks" at Jackson, Michigan in 1854. Bolstered by Civil War veterans, the National Grange of the Order of Patrons of Husbandry ("the Grange"), the aforementioned religious groups, civic leaders, and businessmen, Michigan's new Republican Party took control of state government, returning its candidates to the governor's office all but three times between 1854 and 1932.³⁰ As it will be seen in other chapters, Michigan's Republican governors would place their mark on the production of cheese in southeast Michigan.

Lenawee County

Lenawee County, Michigan Territory was "set off" and named by Territorial Governor Lewis Cass in 1822.³¹ Land within this area originally belonged to bands of

²⁹ Paul Kleppner, *The Third Electoral System, 1853-1892, Parties, Voters, and Political Cultures* (Chapel Hill, NC: The University of North Carolina Press), pp. 173-178, 186-192.

³⁰ Oliver Kelly, a native of Minnesota, founded the National Grange of the Order of Patrons of Husbandry in 1867 to support the interests of local farmers, giving them a voice in national politics. Today, the Grange boasts over 300,000 members in thirty-seven states. Nineteenth century Grange concerns included good roads, rural education, conservation of the natural environment, rural free mail delivery, fair markets, cooperatives, and pure food.

³¹ Richard W. Welch, *County Evolution in Michigan, 1790-1897* (Lansing, MI: Michigan Department of Education, State Library Services, Occasional Paper No.2), p. 2. The first step was the "setting off" of a certain area of land, usually sixteen congressional townships. This county was then given a name and "attached" to another county for judicial and/or taxation purposes, usually to the parent county (in this case, Monroe). The "set off" county had no official existence other than the fact that it had a name, was often shown on state maps, and contained a certain area of land, which could not be incorporated into another county without a special act of the state legislature. At first, Lenawee County extended from Monroe County (1817) on the east, along the disputed border with Ohio (1803) on the south, to the shores of Lake Michigan on the west, completing its northern boundary with Washtenaw County (1826) and later Jackson County (1832). Lenawee County's final western border was established with Hillsdale County in

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Ottawa and Pottawatomie Indians that were partially removed by the Treaty of Chicago (1821).³²

The completion of the Erie Canal through the state of New York in 1825 encouraged settlers by the thousands, from communities along the canal (“Yorkers”) to the residents of New England’s older and longer established cities and towns (“Yankees”) to make Michigan their new home. New York Governor DeWitt Clinton supported the canal as a way to connect Buffalo, a burgeoning port on Lake Erie—with its adjacent western agricultural communities—to the largely metropolitan area of the state’s capital at Albany on the Hudson River in the east. The canal, in tandem with relatively cheap government land in the Michigan Territory—\$1.25 an acre or \$80 for one hundred acres—helped to settle Lenawee County in little more than a decade.

During the antebellum period, most of the land in the lower three tiers of Michigan’s counties was settled. Landowners in this region had many things in common. Most were either “Yankees” or “Yorkers,” young, ambitious heads of households with years of farming experience behind them. The new arrivals were politically savvy and interested in promoting public education, with not a little religious zeal thrown in for good measure. Similar among these young men are their migration stories: most were born in the east, traveled with their families to central New York, where they reached

1836. Currently, Lenawee County consists of 761 square miles. Michigan had thirty-eight counties by statehood (1837). Most of these were formed from counties organized before 1820. Those counties included: Wayne (1815), Monroe (1817), Macomb and Mackinaw (1818), and Oakland (1819). The 2000 United States Census reported Lenawee County had 750 square miles of land and eleven square miles of water.

³² In the Treaty of Chicago, negotiated by Territorial Governor Lewis Cass and Solomon Sibley, the government, in return for the cession of most of the southwest corner of Michigan, agreed to pay the Ottawa Indians an annuity of \$1,000 in cash and \$1,500 annually in support of a blacksmith, a teacher, and an agricultural instructor, as well as for cattle and utensils. The government also paid the Pottawatomie a \$5,000 annuity for twenty years, and \$1,000 for fifteen years for a blacksmith and teacher. Willis F. Dunbar and George S. May, *Michigan, A History of the Wolverine State* (Grand Rapids, MI: William B. Eerdman’s Publishing Company), p. 178.

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their majority, then arrived in Michigan in their mid-twenties and early thirties to take up government land for farming, eventually returning east for a sweetheart or marrying the girl next door, who shared a similar migration experience. Often that woman knew how to make cheese. Home production of cheese in southeast Michigan began with the arrival of these early settlers.

Arriving settlers to Lenawee County found some of the richest land available in the region. Raked by glaciers and flattened by prehistoric lakes, southeast Michigan was covered with hardwood forests, “oak openings,” and a deep, rich soil that was mostly black, sandy loam and marl (clay). The best land, however, was located under a massive swamp that stretched along Michigan’s new border with Ohio.³³ The swamp, best passable only in winter, hindered settlement in the region for many decades. Even in Lenawee County, the southern portions of Fairfield, Ogden, and Riga townships would remain unlivable until the swamps were drained later in the nineteenth century.

Peculiar to Lenawee County, remnants of both glacial advance and prehistoric lakebed recession were evident in the landscape. Where the two topographies met, a ridge on the land (still evident today) appeared. Running at a diagonal through Lenawee County and extending into Washtenaw County to the north and toward the Maumee River in Ohio to the south, the ridge divides a hilly and gravelly soil to the north and west from a flat sand and clay mix to the south and east. Early settlers looked for such features in the landscape to determine the land they would buy. Suitable for pastureland, wheat, and corn, Lenawee County’s early settlers situated their farms along either side of this ridge.

³³ The border dispute with Ohio was settled to allow Michigan statehood in January 1837. By then, most land in Lenawee County was settled by farmers and businessmen or was held by speculators still hoping to make a quick profit.

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Topography and a source of good waterpower created ideal conditions for crop and dairy farming and gave order to the settlement of Lenawee County. Good waterpower came from a 1,072 square mile watershed that encompassed several southeastern Michigan and north-central Ohio counties. Named by the French *La Riviere des Raisins*—for the wild grapes that grew along its banks—the principal river, the Raisin, meanders from its “headwaters region” in Hillsdale County, makes two wide, sweeping curves through Washtenaw and Lenawee Counties, and straightens for its downhill decent through Monroe County to its mouth in LaPlaisance Bay on western Lake Erie.³⁴ The river and its larger tributaries are a mass of tangles, tight oxbows, and shallow currents.³⁵ Early settlers dammed sections of the River Raisin in Lenawee County for mill power, making even small boat navigation impossible.

Before farming beyond subsistence could begin, central market centers with connecting transportation routes would need to be established. In Lenawee County those early market centers were “Kedzie’s Grove” (1823), Blissfield (1824), Tecumseh (1824), Adrian (1826), Hudson (1833), and Morenci (1835). At first joined by the River Raisin, then by the Great Sauk Trail, the LaPlaisance Bay Pike, and finally the Erie and Kalamazoo Railroad (chartered in 1833) Lenawee County farmers found ready markets in Detroit and, with aid of the Erie Canal, eastern and European markets. Corn, wheat, and later wool were the first surpluses shipped from Lenawee County during the early

³⁴ The “Head Waters” Region of Hillsdale County is the source of the following river watershed systems: Grand, Kalamazoo, St. Joseph, and River Raisin in Michigan, and Tiffin/Maumee in Ohio. Raymond LaBounty Puffer, “The Michigan Agricultural Frontier: Southeastern Region, 1820-1860.” Ph.D. dissertation, University of New Mexico, Albuquerque, NM, 1976, pp. 16-17.

³⁵ The River Raisin watershed consists of the following lakes, branches, creeks, and streams: Wampler’s Lake, Evans Creek, Wolf Creek, South Branch of the River Raisin, Bear Creek, Nile Creek, Macon River, and Saline River. Running south into the Maumee River in Ohio is the Tiffin River or Bean Creek. Lime Creek joins the Tiffin River near the Ohio border.

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settlement period. The more capital- and labor-intensive dairy farming would not begin to impact larger local and eastern markets until the mid-nineteenth century.

The following communities were selected not only because of their early market center status in Lenawee County, but for their impact on mid-nineteenth and early twentieth century cheese production. From these early market centers and outlying communities would come the individuals that would shape the cheese industry in Lenawee County and Michigan for the next fifty years.

“Kedzie’s Grove”

The permanent settlement of Lenawee County began in the spring of 1823 with William Kedzie, a resident of Delaware County in the Catskills region of New York. Kedzie was a farmer and friend of Robert Clark, then Register at the Monroe Land Office south of Detroit.³⁶ Conditions the previous year in Kedzie’s New York farming community were dismal at best. Crops and weather were noticeably worse than usual and produce prices had fallen to record lows—two-year-old steers sold for \$7, rye for \$.375 per bushel (and that in goods), and cheese at but \$.05 per pound.³⁷

After corresponding with Clark through most of the winter of 1822, Kedzie arrived in Lenawee County in the spring of 1823, leading a group of eight men who, like himself, were suffering from “Michigan fever.” Clark’s correspondence had directed the men to an area known as the “Big Bend” in the River Raisin. Thirty miles upstream from Monroe, Kedzie’s party found dense hardwood forest, clear marshes, and land that was

³⁶ Raymond LaBounty Puffer, “The Michigan Agricultural Frontier: Southeastern Region, 1820-1860.” PhD dissertation, University of New Mexico, Albuquerque, NM, 1976, p. 124.

³⁷ Raymond LaBounty Puffer, “The Michigan Agricultural Frontier: Southeastern Region, 1820-1860.” PhD dissertation, University of New Mexico, Albuquerque, NM, 1976, p. 121-122.

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low and level some eight miles south of the ridge and a comfortable remove from the Black Swamp some miles to the south. Upon making his land purchase—224 acres of river frontage—Kedzie returned to New York to settle his affairs and move his family to Michigan.³⁸ Upon his return, Kedzie began to clear his acreage to farm. The surrounding area became known as “Kedzie’s Grove” (now Deerfield Township, Lenawee County). From this point, a counter-clockwise settlement pattern developed throughout Lenawee County.

Blissfield

Fast on the heels of the Kedzie settlement, other communities sprang up along the banks of the River Raisin. Within months of Kedzie’s land purchase, Hervey Bliss, of Massachusetts, purchased seventy acres of land north of Kedzie on the River Raisin. Over the next decade, a small community, later known as Blissfield (1824), would grow. In his history of the early settlement patterns of Lenawee County, Raymond Puffer described “Kedzie Grove” and Blissfield as farming communities that grew leisurely and sporadically along the banks of the River Raisin. Neither Bliss nor Kedzie, Puffer noted, became prominent nor even wealthy as a result of their pioneering activities, except for the natural respect which settlers were apt to tender to one of their number. Rather, each village took form as the number of incoming emigrants coalesced about the dwellings, which were already there, not for protection from Indian attacks or for attractions such as a mill or post office so much as the psychological need to locate themselves close to a

³⁸ Raymond LaBounty Puffer, “The Michigan Agricultural Frontier: Southeastern Region, 1820-1860.” PhD dissertation, University of New Mexico, Albuquerque, NM, 1976, p. 124.

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⁴⁰ Raymond I. 1961. PhD dissertation. Henry Bliss was the first Quaker settled in the area. Commented with sex in Ohio in 1814, he arrived at the River Raisin the season of the confluence of the American lands that had been there. He appears to be suggesting that the region was with established through Royal Charter. Pennsylvania became Quakers spread into N. Michigan and Lenawee. The establishment of the Quakers in the region was the abolition of the Quakers in the region. Raymond I. 1961. PhD dissertation.

friendly neighbor in a difficult area.³⁹ The farmers at both “Kedzie’s Grove” and Blissfield worked to plant corn and wheat on their newly cleared land.

Tecumseh

Lenawee County’s north-central townships were the next to be settled, again along the banks of the River Raisin, but this time by the Religious Society of Friends, or Quakers.⁴⁰ The first of these settlements was Tecumseh (1824). Unlike “Kedzie’s Grove” and Blissfield, Tecumseh was a “planned community.”⁴¹

Austin Wing, Musgrove Evans, and Joseph Brown were three men of business with common family ties, Quaker religious beliefs, and political ambitions. Related by marriage, Evans and Brown were brothers-in-law, Wing a distant relation. All three were trained as surveyors, with Wing making a career in politics and Brown making a career in the military. Wing was the moneyed partner with ties to Michigan’s territorial

³⁹ Raymond LaBounty Puffer, “The Michigan Agricultural Frontier: Southeastern Region, 1820-1860.” PhD dissertation, University of New Mexico, Albuquerque, NM, 1976, p. 127. According to Puffer, Hervey Bliss was the archetype of Michigan’s pioneer settlers. Bliss, originally from Massachusetts, had experimented with several small western farms before purchasing land in Blissfield in 1824. Moving first to Ohio in 1814, he arrived with his brother at Monroe two years later and began to eye the upper reaches of the River Raisin there. He first located himself thirteen miles upstream in 1817, choosing a convenient site on the confluence of the Macon River. This, however, was squarely on the Macon Preserve, the Native American lands that had been set aside by the Treaty of Detroit, and Bliss was consequently forced to move. He appears to have lived irregularly at various locations for the next few years—the closest thing to squatting that the region was ever to see, p. 126.

⁴⁰ The Religious Society of Friends or Quakers were seventeenth century nonconformists who broke with established Puritan religious beliefs both in England and its colonies. Founded by William Penn through Royal Charter in 1681 and later supported by Benjamin Franklin, the Commonwealth of Pennsylvania became a Quaker haven during the seventeenth and eighteenth centuries. Agriculturalists, Quakers spread into New York and Canada by the early nineteenth century with many of the early settlers to Michigan and Lenawee County espousing their religious and political beliefs. Chief among those beliefs was the abolishment of slavery fostered by Franklin during the American Revolution.

⁴¹ Raymond LaBounty Puffer, “The Michigan Agricultural Frontier: Southeastern Region, 1820-1860.” PhD dissertation, University of New Mexico, Albuquerque, NM, 1976, p. 135.

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⁴⁰ Raymond L. Brown, "PhD dissertation: A pathway of progress: the southern states would later become..."

⁴¹ Raymond L. Brown, "PhD dissertation: Michigan State..."

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⁴⁵ Raymond L. Brown, "PhD dissertation:..."

government and Lewis Cass. Joining forces during the summer of 1823, the three were experienced in establishing Quaker settlements in New York.

Using his political connections to the territorial government, Wing made inquiries at Monroe as to the best land in the region. Evans then set out to explore a location for their proposed settlement. Instead of following the River Raisin up from Monroe as others had, Evans started from Detroit and traveled west down the Great Sauk Trail until it crossed the River Raisin.⁴² Here, Evans reported, was a great plateau that rose sharply from the riverbed and was unexpectedly nearly devoid of trees. While Wing raised funds to purchase four hundred acres for the new town, Evans returned to New York to meet with Brown, who was in the process of recruiting prospective families.⁴³

During the antebellum period, Tecumseh's population grew to nearly 2,500. The community supported five churches of various denominations, a union school, fraternal and Masonic orders, two newspapers, three flour mills, two iron foundries, two tanneries, two hotels, and several small general stores. Farms surrounding Tecumseh were connected to the outside world by railroad, stagecoach, and plank road.⁴⁴ Wing, Evans, and Brown designed Tecumseh to be the political center of Lenawee County, establishing it as the county seat by act of the Michigan legislature in 1824.⁴⁵

⁴² Raymond LaBounty Puffer, "The Michigan Agricultural Frontier: Southeastern Region, 1820-1860." PhD dissertation, University of New Mexico, Albuquerque, NM, 1976, p. 141. The Great Sauk Trail was a pathway of prehistoric origins which then traversed the Lower Peninsula from the Detroit Strait around the southern shore of Lake Michigan to the location that would become Chicago. This well-worn path would later become a military road and then a state and federal highway, known today as US-12.

⁴³ Raymond LaBounty Puffer, "The Michigan Agricultural Frontier: Southeastern Region, 1820-1860." PhD dissertation, University of New Mexico, Albuquerque, NM, 1976, p. 142.

⁴⁴ *Michigan State Gazetteer and Business Directory for 1867-68* (Detroit: Chapin & Brother, The Detroit Post Company, Printers), description of Tecumseh.

⁴⁵ Raymond LaBounty Puffer, "The Michigan Agricultural Frontier: Southeastern Region, 1820-1860." PhD dissertation, University of New Mexico, Albuquerque, NM, 1976, p. 155. This proved to be no obstacle. Evans was already surveying lots and streets on the company's land, and he set aside ample spaces for a school, a cemetery, government buildings, and a militia parade ground. Official Plat, Village of Tecumseh, 1824, Record of Deeds, Monroe County, Vol. F, pp. 266-267.

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“Pleasant Valley”

Within a year of the founding of Tecumseh, a twenty-three-year-old Quaker named Addison Comstock arrived in Detroit to investigate land prospects. Comstock and his father Darius were residents of Macedon, Wayne County, New York, and temporarily residing in Lockport, New York. At Lockport, the Erie Canal—nearing completion in 1825—passed through the limestone sill of the Niagara escarpment. A practical engineer, Darius Comstock was responsible for making the cut at Lockport—a blasting process taking nearly four years to complete. With the canal work drawing to a close and money in his pocket, the younger Comstock headed for the Michigan Territory.⁴⁶

Addison Comstock returned to Michigan with Darius in the fall of 1825. Scouting the area for himself, the elder Comstock purchased four hundred acres of land in what is now Raisin Township, with an additional eighty acres in the next township west (Adrian Township) for investment purposes. Darius Comstock named his purchase “Pleasant Valley.” Here the elder Comstock would settle with other Quaker families, continually adding to his holdings until his death in 1845.⁴⁷

With even greater ambitions than his father and noting the success of Wing, Evans, and Brown in Tecumseh, Addison Comstock looked for land in the townships west of Pleasant Valley. There, he found a plateau of land, similar to that found near Tecumseh, at the confluence of Wolf Creek and the South Branch of the River Raisin.

⁴⁶ Raymond LaBounty Puffer, “The Michigan Agricultural Frontier: Southeastern Region, 1820-1860.” PhD dissertation, University of New Mexico, Albuquerque, NM, 1976, p. 170. The Comstocks were shrewd investors as well as practical engineers; both father and son became wealthy as a result of their work. Darius Comstock came to Michigan looking for a retirement farm and Addison Comstock for investment possibilities. The Comstock farm in Macedon adjoined that of Joseph Smith, founder of Mormonism.

⁴⁷ Raymond LaBounty Puffer, “The Michigan Agricultural Frontier: Southeastern Region, 1820-1860.” PhD dissertation, University of New Mexico, Albuquerque, NM, 1976, p. 171.

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After purchasing 480 acres, he returned to Lockport for his bride, Sarah Dean. In 1828, Comstock subdivided the plateau into forty-nine village lots, and Sarah Comstock named the tiny community “Adrian” after the famous Roman emperor and wall builder, Hadrian.⁴⁸

Over the next forty years, Adrian became the third largest market center in Michigan with a population approaching ten thousand by mid-century. Roads, stagecoach lines, and railroads—the Erie & Kalamazoo (1833), the Michigan Southern and Northern Indiana (1855), and Detroit and Jackson Railroads (1860), later part of the Michigan Central—connected Adrian with the outside world. Snatching the county seat from Tecumseh in 1838, Adrian would become a large wholesale market center for cheese during the post-Civil War period.⁴⁹

“Valley of the Bean”

Devil’s Lake, covering several sections of both Rollin and Woodstock Townships in northwestern Lenawee County, is the source of Bean Creek. Flowing southeast toward Ohio, the seventy-five-mile Bean Creek follows the Hillsdale and Lenawee County borders, bisecting the glacial ridge in Medina Township. Just before leaving Lenawee County, Bean Creek becomes the Tiffin River as it continues south to join the Maumee

⁴⁸ Raymond LaBounty Puffer, “The Michigan Agricultural Frontier: Southeastern Region, 1820-1860.” PhD dissertation, University of New Mexico, Albuquerque, NM, 1976, p. 176.

⁴⁹ In 1872, Rufus Baker and his son Edwin L. Baker opened a wholesale cheese store, known as Rufus Baker and Son. The Bakers took on Lafayette Ladd as a partner in 1874, changing the firm’s name to Rufus Baker and Company. Edwin left the business in 1878, dissolving the firm. W. A. Whitney and R. I. Bonner, *History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: W. Stearns and Co., 1879), p. 154. Edwin joined in partnership with J. R. Clark, Henry C. Shattuck, and Lafayette Ladd to form a new cheese and pork packing company known as Clark, Baker and Company in 1878. *History and Biographical Record of Lenawee County, Michigan* (1879), p. 476.

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River in Ohio. Although smaller than the River Raisin watershed, Bean Creek had the potential for waterpower that early settlers to its valley were hoping to find.

Those first arriving in the Bean Creek valley made its entrance by exploring the creek's source at Devil's Lake. Addison Comstock purchased land southwest of Devil's Lake in 1832, but did not establish a permanent settlement there until 1851.⁵⁰ Others entered the valley from the southern edge, buying land in Medina Township as early as 1812.⁵¹

In 1833, Hiram Kidder of Yates County, New York purchased land south of Comstock on Bean Creek. First naming the town after the creek, Kidder later changed the name to reflect the appointment of the principal landowner in the area, Beriah Lane, as postmaster. Bean Creek became Lanesville in 1840. This name did not last, however, and Lanesville became Hudson a few months later. Hudson Township and later the town of Hudson were named for Dr. Daniel Hudson of Geneva, New York, another early settler to the valley.

Hudson soon became the largest settlement on Bean Creek when the Lake Shore & Michigan Southern Railroad placed a station there. Hudson became a village in 1853.⁵² At the end of the Civil War, Hudson boasted two thousand inhabitants, five churches, two

⁵⁰ James J. Hogaboam, *The Bean Creek Valley* (Hudson, MI: James M. Scarritt, Publisher, 1876), p. 22. Walter Romig, *Michigan Place Names* (Detroit, MI: Wayne State University Press, 1986), p.11. John Talbot built a gristmill on Bean Creek near Comstock's purchase in 1835-1836, and the settlement was given the name Manetau. After several name changes—Peru, Brownell's Mills, Jackson's Mills, and Harrison—Addison Comstock settled the matter by naming the town for himself in 1852.

⁵¹ Walter Romig, *Michigan Place Names* (Detroit, MI: Wayne State University Press, 1986), p. 360. Daniel Upton from Peterboro, New York purchased land in Medina Township in 1812. Native Americans still had a village at the present site of Canandaigua in 1824. Romig, p. 96.

⁵² Walter Romig, *Michigan Place Names* (Detroit, MI: Wayne State University Press, 1986), p. 277.

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union schools, two newspapers, two banks, and a variety of general stores including a confectionery, ice cream and oyster saloon, and dealers in books and Yankee notions.⁵³

Isaac A. Colvin and his wife Elizabeth W. (Crane) Colvin of Macedon, New York purchased business lots in the village of Hudson and later land in Pittsford Township, Hillsdale County. Colvin became Pittsford Township supervisor in 1839.⁵⁴ His family would farm and manufacture cheese along the Hillsdale and Lenawee County borders during the decades at the turn of the twentieth century.

Further downstream from Hudson were located the settlements of Medina and Canandaigua, populated by Yorkers who named these areas. Even at the end of the Civil War, neither community had a population of more than three hundred persons, though Medina Township's population would near two thousand.⁵⁵ Working land that was primarily low and flat, below the glacial ridge, wheat farmers in this area would move toward the manufacturing of cheese by the century's end.

The last Michigan settlement in the Bean Creek Valley was Morenci. Founded in 1835, Morenci remained a small settlement until the Michigan Southern Railroad established a station there during the Civil War. Morenci was connected by stagecoach to surrounding communities in both Ohio and Michigan. At the close of the Civil War, Morenci had a population of close to nine hundred people, four churches, several Masonic and fraternal societies, two hotels, a woolen factory, and a variety of general

⁵³ *Michigan State Gazetteer and Business Directory for 1867-1868* (Detroit, MI: Chapin & Brother, The Detroit Post Company, Printers).

⁵⁴ James J. Hogaboam, *The Bean Creek Valley* (Hudson, MI: James M. Scarritt, Publisher, 1876), pp. 97, 105-108.

⁵⁵ *Michigan State Gazetteer and Business Directory for 1867-1868* (Detroit, MI: Chapin & Brother, The Detroit Post Company, Printers).

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stores.⁵⁶ During the first half of the twentieth century, Morenci and Hudson would lead the county in production of condensed milk.

“Baker’s Corners”

During the winter of 1832, a large extended Quaker family from Macedon, Wayne County, New York, the Bakers, arrived in Lenawee County. Some members of the family settled in Raisin Township, near the larger Quaker settlement at Pleasant Valley, while others ventured southwest into Fairfield Township, along the south side of the glacial ridge, just above the Black Swamp on the Ohio border. The family patriarch was Moses Baker.⁵⁷ His party consisted of his wife, their three sons, David, John, and Orrin, their wives, and numerous grandchildren. Among them were two grandsons, Rufus, eleven years old, and Jacob, six years old. Moses, John, and Orrin are credited with the founding of “Baker’s Corners” (now Fairfield, Fairfield Township, Lenawee County).⁵⁸

Over the next thirty years, Baker’s Corners would grow large enough to support two (non-Quaker) churches, a general store, a Masonic Lodge, a mechanic shop, various

⁵⁶ *Michigan State Gazetteer and Business Directory for 1867-1868* (Detroit, MI: Chapin & Brother, The Detroit Post Company, Printers).

⁵⁷ Compiled family genealogies of the Baker family from various biographies in the following text. John I. Knapp and R. I. Bonner, *Illustrated History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: The Times Printing Co., 1903), pp. 142-145, 148-150, 188-190. Moses Baker was originally from Massachusetts, later settling in Macedon, Wayne County, New York. Baker removed to Michigan in 1832 after having worked to build the Erie Canal. Other Wayne County, New York residents familiar to Moses Baker, having also made their pilgrimage to Michigan included Levi Shumway, a brother-in-law of Baker’s son John; Addison and Darius Comstock, founders of Adrian; the Westgates, Bowermans, and Havilands, all Quakers settling in Raisin Township.

⁵⁸ W. A. Whitney and R. I. Bonner, *History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: W. Stearns and Co., 1879), p. 153. Another uncle of Baker’s, David, would later settle in Raisin Township. John I. Knapp and R. I. Bonner, *Illustrated History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: The Times Printing Company, 1903), p. 148-150. Biography of Jacob Baker.

types of mills, and a cheese box factory.⁵⁹ During this period, Baker's Corners was connected to the Michigan Southern Railroad by stage delivery from Adrian, Michigan and Wauseon, Ohio.⁶⁰

Rufus Baker came to Michigan, as a young boy of eleven. Though raised a farmer, he first went to work off the family farm at nineteen, teaching school. In 1846, still employed as a schoolteacher, Baker married Maria D. Vail. Together the couple raised three children: Edwin L., Albert, and Angelia. Maria Vail was the daughter of a Seneca Township farm family and had come to Michigan from New York in 1836 with her parents. Baker bought 160 acres of land south of Baker's Corners in Section Two of Fairfield Township in 1855. No longer teaching school, he worked as a livestock dealer, but with little success. Ten years later (1866), he settled down on his farm to go into the dairy business. It was here that Baker would build his cheese factory—the first in Michigan.⁶¹

Beginning with eighteen cows and gradually growing the herd, Baker had enough of a milk supply to begin the manufacture of cheese in 1866. Four years later, the 1870 United States Agricultural Census reported Baker owning forty-eight milch cows that generated enough raw milk to produce 450 pounds of butter and 28,750 gallons of milk

⁵⁹ Vera Covell, "Fairfield Township." In her unpublished history of Fairfield Township, Covell states that Allen N. White ran a carriage manufactory, sawmill, and gristmill in the Village of Fairfield in the early 1860s. In 1865, both businesses burned. White rebuilt his operation to include a steam-powered planing mill with machinery to make almost any kind of wood product. White became a coffin builder and in 1873 began the manufacture of cheese boxes for Rufus Baker. His sons Lewis and Orlando joined him in his business. When Allen White died suddenly in 1877, his sons reorganized the company into White Brothers Mill. The last cheese box was delivered on November 9, 1900. The brothers operated the undertaking business until 1938, according to Lewis A. White's biography in the *Illustrated History and Biographical Record of Lenawee County, Michigan* published in 1903. The Whites were nephews of Rufus Baker, their mother Cynthia being Baker's sister, p. 189.

⁶⁰ *Michigan State Gazetteer and Business Directory for 1867-1868*. (Detroit: Chapin & Brother, The Detroit Post Company, Printers).

⁶¹ W. A. Whitney and R. I. Bonner, *History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: W. Stearns and Co., 1879), pp. 153-154.

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for cheese production.⁶² The 1879 *History and Biographical Record of Lenawee County* reports that, during the 1870s, cheese production on the Baker farm reached record numbers. It was not uncommon for Baker to produce cheese worth nearly \$60,000, averaging 640 pounds of cheese per cow, with butter worth an additional \$105 per cow.⁶³ In addition to his son, Edwin, Baker had three men and three women in his employ.⁶⁴ The 1870 United States Agricultural Census indicates that Baker was obtaining excess milk from both his extended family and his neighbors.

In 1872, Rufus Baker opened a wholesale cheese store, known as Rufus Baker and Son, in Adrian, approximately six miles north of his farm. The firm took on Lafayette Ladd as a partner in 1874, changing its name to Rufus Baker and Company. This firm was dissolved in 1878 when Edwin Baker left the business.⁶⁵

Raisin Center

David Baker chose not to settle with his father and brothers in Fairfield Township, but instead settled to the east of the larger Quaker settlement at Pleasant Valley in Raisin Township. Upon his arrival in 1832), Baker, his wife, and their three children identified themselves with the Society of Friends congregation.

⁶² 1870 United States Agricultural Census, Schedule 3—Productions of Agriculture in Fairfield Township, in the County of Lenawee, pp. 3-4.

⁶³ W. A. Whitney and R. I. Bonner, *History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: W. Stearns and Co., 1879), p. 154.

⁶⁴ *Sixth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1867* (Lansing, MI: John A. Kerr and Co., 1867), p. 140.

⁶⁵ W. A. Whitney and R. I. Bonner, *History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: W. Stearns and Co., 1879), p. 154. Edwin joined in partnership with J. R. Clark, Henry C. Shattuck, and Lafayette Ladd to form a new cheese and pork packing company known as Clark, Baker and Company in 1878. *History and Biographical Record of Lenawee County, Michigan* (1879), p. 476.

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Earlier that year, the Raisin Township Quakers built their first church edifice—a log building approximately twelve by sixteen feet—on Section Twenty-Eight. The congregation had migrated from Niagara County, New York—almost intact—with some of their members originally coming from Canada. Members of the congregation included the Westgate, Bowerman, and Haviland families. The newly transplanted congregation brought their books and worshiped without any formal organization in their new home.⁶⁶ In 1837, the Haviland and Smith families founded the Raisin Institute—a co-educational and racially mixed school, the first of its kind in the state.

David Baker's son, Jacob, was six years old when the family arrived in Michigan. He was educated in the schools of Lenawee County, including one term at a Society of Friends select school in Tecumseh, and one term at the Raisin Institute.⁶⁷

On May 8, 1851, Jacob Baker married Phila Colvin, daughter of Isaac A. and Elizabeth W. (Crane) Colvin. The Colvin family had also come from Macedon, New York. Phila and Jacob Baker had three children: Clara E., Florence, and George H.⁶⁸ As will be seen in later chapters, Baker's nephew, C. C. Colvin, would live near Hudson, Michigan, owning and operating several cheese factories well into the twentieth century.

In 1862, at the age of thirty-six, Baker became an elder in the Society of Friends Raisin Township congregation. Later, he served as a traveling missionary elder to several

⁶⁶ John I. Knapp and R. I. Bonner, *Illustrated History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: The Times Printing Co., 1903), pp. 148-150. History of the Quakers in Lenawee County: Charles Haviland, Jr., and later his wife, Laura Smith Haviland, would become nationally known members of the abolitionist movement. Laura Smith Haviland was born in Kitley Township, Ontario, Canada in 1808.

⁶⁷ John I. Knapp and R. I. Bonner, *Illustrated History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: The Times Printing Co., 1903), p. 149. Some letters written by Baker to these and other Quaker churches describe his role of elder in the Raisin Church. Jacob Baker letters, collection of Vera Covell, Fairfield Township, Lenawee County, Michigan.

⁶⁸ John I. Knapp and R. I. Bonner, *Illustrated History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: The Times Printing Co., 1903), pp. 142, 150. Clara Baker was born in 1853; Florence Baker in 1856; and George H. Baker was born in 1861 and died in 1863.

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congregations spread throughout the United States.⁶⁹ When not attending to his various parishioners, he operated the Raisin Union Cheese Factory in Raisin Township.

Established in 1868, the Raisin Union Cheese Factory (RUCF) remained in operation until at least 1883. According to an entry in the *Michigan State Gazetteer*, Jacob Baker had turned over its reins to his cousin, Rufus Baker. The listing reads: “Raisin Centre, Michigan: Baker, Jacob, Elder (Friends), Baker, Rufus, sec. Raisin Union Cheese Factory.”⁷⁰

The 1870 United States Agricultural Census for Lenawee County shows Baker owning 108 acres of land, most of it improved, in Raisin and Palmyra Townships (inherited from his father David), with seventeen cows producing 4,253 gallons of milk for cheese production.⁷¹ To this author’s knowledge, only the records of the RUCF survive, in relation to all other examples given in this dissertation. Its records give a more in-depth look inside the daily operations of a local cheese factory and will be explored at greater length in later chapters.

Baker’s correspondence for the RUCF stops in 1875, most likely because he was still carrying the dual responsibilities of businessman and elder in the Society of Friends Raisin Township congregation. He formally became the minister of the Raisin Friends church in 1870, a post he held for ten years. In 1880, Baker was called to the pastorate of

⁶⁹ John I. Knapp and R. I. Bonner, *Illustrated History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: The Times Printing Co., 1903), p. 149. Some letters written by Baker to these and other Quaker churches describe his role of elder in the Raisin Church. Jacob Baker letters, collection of Vera Covell, Fairfield Township, Lenawee County, Michigan.

⁷⁰ R. L. Polk and Company, *Michigan State Gazetteer and Business Directory* (Detroit: R. L. Polk and Co., 1883), p. 1276.

⁷¹ 1870 United States Agricultural Census, Schedule 3—Productions of Agriculture in Raisin Township, in the County of Lenawee, in the Post Office of Adrian, Michigan, pp. 11-12. Details related to Jacob Baker, item 8. *Combined Atlas of Lenawee County, Michigan* (Mt. Vernon, IN: Windmill Publications, Inc., 1997), Raisin p. 59, Palmyra p. 103. John I. Knapp and R. I. Bonner, *Illustrated History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: The Times Printing Co., 1903), p. 148.

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a Quaker church in Green Plains, Ohio, and from there he traveled the nation, coming back to Lenawee County for only brief stays.⁷²

Dover Center

Unmarried and with no financial backing, Martin P. Stockwell arrived in Lenawee County on May 15, 1835 at the age of seventeen with only \$3.50 in his pocket.⁷³ He walked from his father's home in Cato, New York to the ports at Buffalo, then took steerage on a Lake Erie steamer bound for the ports at Detroit, Michigan.

While aboard, Stockwell was befriended by the captain of the vessel, who told him not to go to Detroit, but to stop in Toledo, Ohio, which was closer to his final destination, Adrian, Michigan. With only twenty-five cents left, Stockwell walked thirty miles from Toledo to Adrian, mostly in the rain. Upon his arrival, he stayed the night with Isaac French, paying him a shilling. His supper consisted of six cents worth of crackers purchased from French. The next day, he reached the home of his uncle, Moses Perkins, in Dover Township, Lenawee County. Stockwell soon obtained work and returned to Cato, New York, a year later,⁷⁴ to bring his parents west.

⁷² John I. Knapp and R. I. Bonner, *Illustrated History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: The Times Printing Co., 1903), p. 148-149. "Mr. Baker has received credentials from his church for evangelistic work in various parts of the country, reaching from Maine to California, and has attended ten Friends Yearly Meetings of America and is now in 1903 the oldest active member in the Ohio Yearly Meeting." Baker was seventy-seven years of age.

⁷³ Stockwell's family is typical of those on the western migration path to Michigan in the early nineteenth century. David Stockwell, Martin's grandfather, settled in Ira, New York in 1800, having himself been born in Whitehall, New York. The elder Stockwell brought with him his wife and three small sons. His daughter and fourth child, Polly, was the first child to be born in Ira, in 1802. David Stockwell's grandson, Martin, was born in Cato, New York on February 11, 1818, and was the first member of the family to move to Michigan. Chapman Brothers, *Portrait and Biographical Album of Lenawee County, Michigan* (Chicago: Chapman Press, 1888), p. 215. Irene Dixon Stockwell, *The Stockwell Family Adventures into the Past 1626-1982* (Janesville, WI: Janesville Printing Co., 1982), pp. 610-613.

⁷⁴ Chapman Brothers, *Portrait and Biographical Album of Lenawee County, Michigan* (Chicago: Chapman Press, 1888), p. 215. Irene Dixon Stockwell, *The Stockwell Family Adventures into the Past 1626-1982* (Janesville, WI: Janesville Printing Co., 1982), pp. 610-613.

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Stockwell purchased all of Section Fifteen (640 acres) in Dover Township in 1837. Section Fifteen is located on the northern side of the glacial ridge, slightly rolling and consisting of gravel till and low marshes. Creeks feeding the South Branch of the River Raisin flowed through the land, creating an excellent environment for raising dairy cattle. Through hard work and industry, Stockwell added all of Section Twenty-Two (640 acres) of Dover Township to his holdings.⁷⁵ Combined, these two sections equaled 1,280 acres. On this land Stockwell went into the dairy business. In 1869, he built a cheese factory—not the first in Lenawee County—to process his own milk and that of his neighbors.

A road, now M-34, running east-west just south of Cadmus to Hudson, bisected Stockwell's two sections. Within five years (1842), a small community grew up around his farm. Stockwell set aside land for a school, a township hall, a cemetery, and later, a Free Will Baptist church.⁷⁶ The grouping of structures, which included the Stockwell home, was given the name of Dover Center, Michigan. Since Stockwell owned all the land surrounding these buildings, a village of private residences never grew up there.⁷⁷ Little doubt is left, however, that this group of buildings supported a beehive of activity when school was in session or when local farm families went to township meetings, attended church, or brought milk to the cheese factory.

Martin P. Stockwell served as justice of the peace for eight years, represented Dover Township on the Lenawee County Board of Supervisors for two terms, was

⁷⁵ Chapman Brothers, *Portrait and Biographical Album of Lenawee County, Michigan* (Chicago: Chapman Press, 1888), pp. 408-409.

⁷⁶ Chapman Brothers, *Portrait and Biographical Album of Lenawee County, Michigan* (Chicago: Chapman Press, 1888), p. 217. Fred and Ruth Kuney, "Early Days of Dover" (Adrian, MI: Lenawee County Historical Society Museum, 1972), p. 5.

⁷⁷ Dover Center lacked two things other pioneer settlements had: waterpower for a mill and later a railroad connection. Today, only the Stockwell home, parts of the cheese factory, and cemetery remain. A new township hall replaced the original in 1985.

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Overseer of the Poor for eight years, and was a member of Michigan's Constitutional Convention in 1867.⁷⁸ He was also one of eighteen vice-presidents in the Lenawee County Antislavery Society prior to the Civil War.⁷⁹

Louisa Baley, who had arrived in Michigan as a young child with her parents from New York, married Stockwell soon after his return to Michigan with his parents. The couple had eleven children: Olive, Cinderilla, Agnes, Joseph B., Zarifa, Anna, Alice (deceased at age ten), Esther (deceased at age six), Elmer (deceased at age three), Minnie, and Louie.⁸⁰ As will be seen in later chapters, Stockwell formed partnerships with his oldest son and son-in-laws to operate a cheese factory.

Fruit Ridge

On February 14, 1841, Lucina Perkins of Herkimer County, New York, married Samuel Horton of Gosberton, Lincolnshire, England. Lucina Perkins grew up in the largest cheese-producing county in upstate New York, and as a young woman she learned the business of making cheese. Married in New York, the Hortons first moved to Ohio, where two of their three children were born. They settled in Michigan on Section Seven

⁷⁸ Chapman Brothers, *Portrait and Biographical Album of Lenawee County, Michigan* (Chicago: Chapman Press, 1888), p. 216.

⁷⁹ Charles N. Lindquist, *The Antislavery-Underground Railroad Movement in Lenawee County, Michigan, 1830-1860* (Adrian, MI: Lenawee County Historical Society, Inc., 1999), pp. 29-30. As early as April 1846, the Friends of Liberty met at the Lenawee Courthouse to form a countywide organization, the Lenawee County Antislavery Society, with Stephen Allen as their president. Under him were eighteen vice-presidents from eighteen different parts of the county with each of them having committees in their home area. One of the goals of each leader, along with his committee, was to stir up interest and support through rallies. Martin Stockwell was the Dover Township vice-president.

⁸⁰ Olive married Byron L. Shaw; Cinderilla married I. R. Gale; Agnes married Aaron Van Ostrand; and Zarifa married Robert F. Pouley. W. A. Whitney and R. I. Bonner, *History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: W. Stearns and Co., 1879), pp. 150-151.

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of Fairfield Township, Lenawee County in 1851.⁸¹ Upon her arrival in Michigan, Lucina Horton began to make cheese for home use. According to her youngest grandson, Samuel W. Horton, Lucina Horton's first cheeses were produced in the following manner:

“She (Lucina) experimented by making several cheese (one a day) from the milk produced by their five cows. Her apparatus was very crude at the start. She cooked her first cheese curds in a large iron kettle on the wood-burning stove in her kitchen, and further processed the curds on the kitchen table. Then she pressed her finished curds in a round home-made mold under a corner of the rail fence in the back yard, using heavy rocks as pressure weights; and cured (aged) her newly made cheese in a warm room for a month to develop their flavor and tang before trying to market them—by wagon door to door among the neighbors.”⁸²

Lucina Horton soon became widely respected for her cheese-making skills. The Horton entry in the *History and Biographical Record of Lenawee County* states that, by 1880, Horton had taught most of the prominent cheese makers in Lenawee County how to make cheese. She was superintendent of her husband's cheese factory for eight years, beginning in 1866.⁸³

No one ever wrote down Horton's award-winning cheese recipe. Nor is it known what adaptations to her new Michigan environs were necessary, or what techniques she may have used to refine her cheese-making process. Whatever those techniques were, Horton did share some of them with her children (and with at least eight other Lenawee County cheese makers)—though not in written form—during the decades following the Civil War. The original name for her style of cheese will never be known, either, but by

⁸¹ W. A. Whitney and R. I. Bonner, *History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: W. Stearns and Co., 1879), p. 280. According to Pirtle's *History of the Dairy Industry*, English immigrants brought the cheddaring process to Herkimer County, New York in the 1840s. T.R. Pirtle, *History of the Dairy Industry* (Chicago: Mojonner Brothers Co., 1926).

⁸² Samuel W. Horton, *Two Generations of Hortons*. Unpublished family history written by George Byron Horton's youngest son Samuel on May 3, 1923. George Byron Horton died in 1922. Scrapbook history of the George Byron Horton Family compiled by Carolyn Holden.

⁸³ W. A. Whitney and R. I. Bonner, *History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: W. Stearns and Co., 1879), p. 280.

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the end of the nineteenth century, the name most often given—especially in Lenawee County—was “Soft Michigan” cheese.

It was not long before the Hortons’ three children—Alice M., George B., and Harriet A.—became instrumental in the manufacture of cheese. Alice married Cosper Rorick of Seneca Township, joining him in the manufacture of cheese on their farm.⁸⁴ The 1870 United States Agricultural Census shows the Rorick farm as having fifteen milch cows and taking in 3,400 gallons of milk from neighboring farmers.⁸⁵ Rorick was no doubt taught by his wife and mother-in-law to make cheese.

Harriet Horton married Dr. Henry Jewett and took little interest in the Horton family cheese business. The Hortons’ only son, George Byron, purchased his father’s farm and cheese making operations from his two sisters upon their father’s death in 1872. Here George B. Horton would build a magnificent home, triple the size of the original farm (from 475 acres to nearly 1,500 acres), raise four children with his wife, Amanda Bradish Horton, and expand the cheese industry in southeast Michigan. Other chapters of this dissertation will explore Horton’s rise to political and economic power at the turn of the twentieth century.

At the end of the antebellum period, Lenawee County was divided into twenty-two fully populated townships, whose market centers were joined by railroad, stage, and highways of various conditions. Firmly established farm and business infrastructures, combined with an ideal environment for dairying and knowledge of home cheese

⁸⁴ W. A. Whitney and R. I. Bonner, *History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: W. Stearns and Co., 1879), p. 280.

⁸⁵ 1870 United States Agricultural Census, Schedule 3—Productions of Agriculture in Seneca Township, in the County of Lenawee, in the Post Office of Morenci, Michigan, p. 3. Details related to Cosper Rorick, item 25.

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production, poised Lenawee County to take a leading and active role in the commercialization of cheese manufacturing soon after the Civil War.

Early Cheese Production

During the antebellum period, little (if any) cheese was manufactured commercially in Michigan. Most cheese production took place on the family farm for home use with limited neighborhood sales. Farmers were primarily concerned with clearing their lands and growing wheat for sale and Indian corn for livestock feed. During the late 1850s and early 1860s, Michigan farmers produced bumper wheat crops on an annual basis—wheat that fed thousands of Union troops fighting the Civil War.⁸⁶

The Homestead Act of 1862 opened new farming opportunities in the west, creating wheat bonanzas in states and territories beyond the Mississippi River. Michigan's wheat farmers soon looked for income alternatives. Many early wheat farmers turned to dairy production. Historian Richard Sewell, in an article for *Michigan History Magazine* in 1960, documents the change to dairy production during the mid-nineteenth century:

“A most important development in dairy farming occurred in Michigan during the Civil War decade—the introduction of the factory system of butter and cheese production. This process, whereby an individual devotes his attention exclusively to the manufacture of dairy products from the milkings of others' cows, appeared first in New York in 1851. The first cheese factory in the West began operation at Bloomingdale, Illinois and, concerned over Michigan's inability to

⁸⁶ Richard H. Sewell, “Michigan Farmers and the Civil War,” *Michigan History Magazine* (December 1960), p. 361. In 1859, Michigan was the nation's ninth leading producer of wheat, supplying 4.8 percent of the total. By 1869, it had nearly doubled its annual output, growing 16,265,773 bushels amounting to 5.6 percent of the nation's wheat crop; and by 1879, only Illinois, Indiana, and Ohio reaped larger harvests. Much of Michigan's increased wheat production can be credited to normal agricultural development (the output mounted nearly twofold every decade between 1850 and 1880), but the war was undoubtedly a stimulating factor, with its hungry armies to feed, as was the high demand from England and Europe, where crop failures marred 1860, 1861, and 1862.

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⁴³ Richard
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provide enough butter and cheese for its own consumption, Sanford Howard, the secretary of the State Board of Agriculture, began urging the adoption of the factory system in Michigan. Greatly inflated prices for dairy products, as much as triple the normal figures, reinforced Mr. Howard's urgent appeal; and in January, 1866, Rufus Baker of Fairfield in Lenawee County began building the first cheese factory in the state."

Sewell continues:

"Before the year was out, three others (cheese factories) began operation in southern Michigan, and early in 1867 the governor (Henry H. Crapo) signed into law 'an Act to authorize the formation of corporations for manufacturing cheese and other products from milk.' These early plants made only cheese, but Michigan dairymen soon found it expedient to add the manufacture of butter to the process in order to save the butter particles usually carried off in the whey."⁸⁷

The idea that dairy farming could become a profitable venture for Lenawee County farmers was debated at the Rollin Township Farmers' Club in the mid-1860s. In an article published in the *Adrian Times and Expositor* (Lenawee County) entitled "Dairy Farming," club members reported that they had taken up the question: "Resolved: that the net profits of a dairy farm in Rollin are greater per acre than a grain farm." After much scientific debate, the last word apparently went to Levi Jennings, who stated, "We could not all go into the dairy business; on some farms the timothy (hay) runs out, and even the clover, after a cold winter disappoints us; grain raising and the dairy might go well together."⁸⁸

The first commercial cheese production in Lenawee County (and in Michigan, for that matter) began on Rufus Baker's Fairfield Township farm on May 23, 1866.⁸⁹ Other farmers soon followed his lead. During the next three years, fifteen cheese factories

⁸⁷ Richard H. Sewell, "Michigan Farmers and the Civil War," *Michigan History Magazine* (December 1960), pp. 369-370.

⁸⁸ *Adrian Times and Expositor*, "Dairy Farming," date unknown.

⁸⁹ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1866* (Lansing, MI: John A Kerr and Company, 1866), pp. 189-191.

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would be started in Michigan. In a letter to the secretary of the State Board of Agriculture in 1869, Baker wrote, “(Michigan) farmers have got cheese on the brain, and seem to be rushing pell-mell into dairying.”⁹⁰

On May 27, 1866, one of Baker’s competitors, Samuel Horton, opened a cheese factory on his neighboring Fairfield Township farm.⁹¹ In the 1880 *History and Biographical Record of Lenawee County, Michigan*, Horton quipped that his friends and neighbors often told him he “would never be successful, that he couldn’t sell his cheese, and that good cheese could never be made in Michigan, anyway.” However, he owned ten cows and was about to prove his friends and neighbors wrong.⁹² He had been lucky enough to marry a woman who knew how to make cheese; as will be seen in later chapters of this dissertation, Lucina Perkins Horton was about to make her husband a wealthy man.

By 1870, according to historian Richard Sewell, Michigan’s new dairy farmers were producing two-thirds or sixty percent of the state’s butter and cheese, at an annual rate of 15,503,482 to 24,400,185 pounds of butter and 1,641,897 to 2,400,946 pounds of cheese. The number of milch cows rose from 179,543 to 250,859 to meet this demand.⁹³ Sewell noted that the increased growth of the factory system “struck a body blow at

⁹⁰ Richard H. Sewell, “Michigan Farmers and the Civil War,” *Michigan History Magazine* (December 1960), p. 370.

⁹¹ W. A. Whitney and R. I. Bonner, *History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: W. Stearns and Co., 1879), p. 154.

⁹² W. A. Whitney and R. I. Bonner, *History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: W. Stearns and Co., 1879), p. 280. Horton’s factory opened four days after Rufus Baker’s. Horton owned ten cows in the early 1860s, according to his biography in Whitney and Bonner. The United States Agriculture census of 1870 shows Horton owning forty-four milch cows and 468 acres of land. He was well on the way to producing some of the best cheese in Michigan.

⁹³ Richard H. Sewell, “Michigan Farmers and the Civil War,” *Michigan History Magazine* (December 1960), p. 370.

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traditional self-sufficiency of farm units, and ushered in a period of increased agricultural specialization,” making Lenawee County Michigan’s dairy leader.⁹⁴

Michigan Agricultural College

Before the establishment of Lenawee County or the State of Michigan, powers within Michigan’s territorial government sought to build an institution of higher learning on Michigan’s frontier. Territorial Governor Lewis Cass and others created the Catholepistemiad or the University of Michigania in 1817. Over the next forty years, the University of Michigan—first at Detroit and then Ann Arbor—would expand exponentially with the territory.

With the majority of southeast Michigan under cultivation and its market centers well established by mid-nineteenth century, a faction of agriculturalists arose in the state to meet the challenge of extending the academic knowledge of agriculture, technology, and economic development to local farming communities. But where to base this knowledge? Some felt the agricultural interests of the state were best served by creating a technical school within the University of Michigan; others thought such a body of knowledge should be taught separately in an institution devoted solely to the purpose of agricultural instruction and practical farming.⁹⁵

Built in the swampy marshes three miles east of Michigan’s state capitol, Lansing, the Agriculture College of the State of Michigan—today known as Michigan State University—was created in response to the demands of the state’s agricultural leaders for

⁹⁴ Richard H. Sewell, “Michigan Farmers and the Civil War,” *Michigan History Magazine* (December 1960), p. 370.

⁹⁵ Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), p. 1.

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a college to teach both practical farming and theories of the emerging “scientific agriculture” that were coming out of Europe in the mid-nineteenth century. In 1855, no one knew what an agricultural college would look like or whether it could succeed.⁹⁶

Often referred to as “The Farm,” both because of its intended use in the teaching of practical agriculture and its physical layout, the tiny college struggled to maintain its own identity.⁹⁷ For the first five years of its existence, the Agricultural College of the State of Michigan battled to remain separate from the University of Michigan in Ann Arbor. Unlike the University of Michigan, however, students who would attend the Agricultural College would be the sons and eventually the daughters of Michigan’s farmers, educated in the state’s public schools.⁹⁸ It was hoped that these same sons and daughters would return to the family farm after completing their education. Many would not.

With its establishment by the Michigan legislature in 1855, the Michigan Agricultural College (MAC) found itself governed by a generally unsympathetic state Board of Education. Members of the Board of Education tried on several occasions to

⁹⁶ Agriculture College of the State of Michigan (1855-1861) ACSM; The State Agricultural College (1861-1909) SAC; Michigan Agricultural College (1909-1925) MAC; Michigan State College of Agriculture and Applied Science (1925-1955) MSC, AAS; Michigan State University of Agriculture and Applied Science (1955-1964) MSU AAS; Michigan State University (1964-present) MSU. I chose to use the name Michigan Agricultural College (MAC) for the period covering 1861-1925. Keith Widder noted in his history of the college that “long before the college’s name changed to Michigan Agricultural College in 1909, that name was commonly used. Consequently, I (Widder) have used it interchangeably with the name State Agricultural College throughout the narrative. I (Widder) use the names Michigan State College and Michigan State University only when it is chronologically appropriate,” p. xxi. This author (Dickens) has chosen to use MAC to represent the Agriculture College of the State of Michigan.

⁹⁷ Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), p. 1. Robert F. Johnstone, editor of *Michigan Farmer*, first referred to the college as “The Farm” in his account of the opening day ceremonies of the college in May 1857.

⁹⁸ Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), p. 15.

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reduce the new college to a minor role as a two-year technical training facility.⁹⁹ Unable to fight the battle to have the college remain a four-year institution, its first president, Joseph R. Williams, left the fledgling college to take a seat in the Michigan legislature in 1860. Once in the capacity of lawmaker, and convinced that the Board of Education did not understand the college's purpose, Williams prodded the legislature to pass an act to change radically the governance of MAC.

Under the law, the newly created State Board of Agriculture (SBA), rather than the state Board of Education, would govern the college. The act stated, "All agricultural operation on the farm shall be carried on experimentally, and for the instruction of the students, and with a view to the improvement of the science of agriculture in the State of Michigan." The law also required the SBA to publish an annual report that would make available to farmers accounts detailing virtually every aspect of growing crops. The new law went into effect in 1861.¹⁰⁰

According to Michigan State University's sesquicentennial historian, Keith Widder, "Two provisions of the act creating the SBA ensured the existence of the young college as an independent entity and bound the institution closely to Michigan's agricultural community." The first provision—Section 6—ordered the new Board to appoint a secretary as a nonvoting member. The secretary was to carry out duties that

⁹⁹ Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), p. xiii.

¹⁰⁰ Prior to 1861, Michigan Agricultural College had been administered under the Office of the Superintendent of Public Instruction. When the department began to work to limit the college to a two-year institution, faculty petitioned Michigan's governor, Austin Blair, to be separated from the Superintendent of Public Instruction, thus the creation of the State Board of Agriculture. Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), p. 52. Joseph R. Williams hailed from St. Joseph County. He served on the state's 1850 Constitutional Convention. On the resignation of James Birney as lieutenant governor April 3, 1861; died 1861, and succeeded by Henry T. Backus May 8, 1861. *Michigan Manual 1991-1992* (Lansing, MI: The Legislative Service Bureau, 1991), pp. 353-354.

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would link the college to different constituencies throughout the state, thereby applying findings on the farm and in the laboratory to the lives of people living in rural and urban Michigan. The second provision—Section 13—empowered the governor to appoint future members of the SBA from a list of nominees presented by individual county agricultural societies. Men who were experienced in and knowledgeable about farming would now oversee the college’s operation and future.¹⁰¹

The duties of the secretary of the SBA included sending circulars and reports to local agricultural societies on topics pertaining to agriculture and domestic life. Among other topics, the state’s farmers learned of advances in raising cattle, harvesting crops, dairying, the development of new seeds, and the understanding of different soil types. SBA’s secretary also functioned as the college’s business manager, and was expected to always be current in his knowledge of the school’s affairs and to make reports to the legislature and the governor regarding both the state of the college and agriculture in Michigan.¹⁰² As will be seen in other portions of this dissertation, SBA’s secretary from 1864 to 1871, Sanford Howard, played a pivotal role in the establishment of the cheese industry in southeast Michigan.

Having won the battle of self-governance with the formation of the SBA, MAC would be bolstered—just a few months later—by an even more powerful national law. President Abraham Lincoln, in the midst of the nation’s Civil War, signed into law the 1862 Morrill Land Grant College Act, which would disperse public lands for the creation of public agricultural colleges throughout the nation. The Morrill Land Grant College bill

¹⁰¹ Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), p. 43.

¹⁰² Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), p. 43.

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was first introduced into the United States Congress in December 1857 and was initially defeated during the Buchanan administration.

Crafted by Justin Smith Morrill, a Congressman from Vermont, the bill was pushed to President Buchanan's ultimate veto by two Kalamazoo residents and members of Congress, Representative David S. Walbridge (a miller by trade) and Senator Charles E. Stuart (a lawyer). Their efforts to pass the Morrill Act were assisted by Joseph R. Williams, former president of MAC, who wrote Walbridge's remarks in defense of the bill.¹⁰³ The purpose of the Morrill Land Grant Bill was to endow:

“at least one college (in each state) where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislatures of the States may respectively prescribe in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.”¹⁰⁴

Each state received thirty thousand acres for each senator and representative in Congress according to the 1860 Census. On February 25, 1863, Michigan became the seventh state to accept the terms of the Morrill Land Grant College Act.¹⁰⁵ Michigan's land share amounted to 240,000 acres of land in seventeen counties located in the northern portion of the Lower Peninsula.¹⁰⁶

¹⁰³ Herbert Andrew Berg, *The State of Michigan and the Morrill Land Grant College Act of 1862* (East Lansing, MI: Michigan State University, 1965), p. 3-4.

¹⁰⁴ Herbert Andrew Berg, *The State of Michigan and the Morrill Land Grant College Act of 1862* (East Lansing, MI: Michigan State University, 1965), p. 9.

¹⁰⁵ Herbert Andrew Berg, *The State of Michigan and the Morrill Land Grant College Act of 1862* (East Lansing, MI: Michigan State University, 1965), p. 11.

¹⁰⁶ Herbert Andrew Berg, *The State of Michigan and the Morrill Land Grant College Act of 1862* (East Lansing, MI: Michigan State University, 1965), p. 20. Those counties included Alcona, Alpena, Antrim, Benzie, Charlevoix, Cheboygan, Grand Traverse, Iosco, Kalkaska, Leelanau, Manistee, Missaukee, Montmorency, Oscoda, Otsego, Presque Isle, and Wexford, for a total of 235,673.37 acres. Tracts were sold in not less than 160-acre sections. By 1950, 280.7 acres remained unsold. Berg, pp. 23, 28. Much of Michigan's nineteenth-century timber profits would come from the rapid deforestation of these counties.

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To comply with the Morrill Land Grant Act, MAC's faculty designed courses **around** the classics, science, and the farm. Not all of Michigan's farmers were pleased **with** this new curriculum. "Many farmers questioned the value of scientific agriculture or **felt** that the College's program subverted their desire to have their children return to the **farm**, believing the only purpose of the College was to train students to become better **practical** farmers."¹⁰⁷ This debate continued with the addition of "military tactics," first **required** in 1885, and on into 1913 with discussion over the relevance of the engineering **program**. That year (1913) the editor of the *Adrian Daily Telegram* (Lenawee County) **verbalized** what many of his constituents may have been discussing around their dinner **tables**: "We cannot imagine a more effective 'away from the farm' influence than an **engineering** school masquerading as part of an agricultural college."¹⁰⁸ It would take **several** more decades before trust could be built between agriculturists in Michigan and MAC.

One group that ardently supported the college was the influential membership of the **Michigan** Grange, who wholeheartedly backed the creation of the Farmer's Institutes **offered** annually to the agricultural community by MAC. The institutes provided "intelligent farmers" with the latest research in agriculture, entomology, horticulture, and **livestock**. Speakers at institutes taught their audiences about soil analyses, methods of **fertilization**, pests, seeds, and animal feed. Organized not too many years before the

¹⁰⁷ Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), p. 8.

¹⁰⁸ Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), pp. 9, 28.

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college began holding public institutes in 1876, the Michigan Grange worked to gain **leg**islative appropriations for improvements at the college through political agitation.¹⁰⁹

Surviving its initial prejudices and drawing strength from partners such as the **M**ichigan Grange, MAC at the conclusion of the Civil War found itself ready and in a **p**osition to assist Michigan's farmers with plans for a change in their economic future. **S**BA secretary Sanford Howard would suggest factory cheese production as the solution. **T**he only pieces missing from the equation were farmers willing to risk change and men to **t**each them how to make a profit from that change.

When the Civil War ended in 1865, Lenawee County had progressed from a **s**paringly populated and wild frontier of uncleared land with few roads to a prosperous **f**arming region with numerous large and well-established market centers connected by **r**ailroads, telegraphs, and newspapers. Farmers shipped to and received goods from **e**astern and European markets. The boom years of wheat production had made many **f**armers wealthy and able to bring more land into production. Business, religious, and civic **o**rganizations prospered; the community supported a four-year college at Adrian.

But with the rise of western wheat markets, farmers in Lenawee County needed to **e**xpand into other commodities. Dairying was the ideal solution. The county's well-**d**raind clay and gravel soils and moderate climate provided an excellent base for **p**astureland. A farm with even ten cows could turn an excellent profit in a short time. In **l**ess than a generation, farm women, who had worked to preserve the family farm during **t**he Civil War, would pass their pioneer cheese-making skills to the "factory men." **B**usiness leaders, agriculturalists, and politicians with capital to invest would turn their

¹⁰⁹ Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), p. 61.

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attentions toward institutions of higher learning like MAC at Lansing. All these interests
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The Commercialization of "Soft Michigan" Cheese

Historian Richard Sewell correctly stated that the "factory system of cheese **production** struck a body blow to the traditional self-sufficiency of farm units and **ushered** in a period of increased agricultural specialization."¹¹⁰ Up until the middle of the **nineteenth** century, northern agricultural production had relied heavily on the self-**sufficient** family farm unit. During this period, farmers had produced for their individual **needs** and sold the surplus, often investing profits into more cheap land. Farm women **supplemented** family income with the sale of eggs, butter, and cheese. As America's **population** and economic base expanded prior to the Civil War, farm families found a **ready** market for their home-manufactured goods.

However, production often could not keep up with demand. Producing great **quantities** of cheese in a farmhouse kitchen was not economical for women who were **engaged** in other aspects of running the family farm and household. The need to **consolidate** dairy production outside the family unit soon became apparent. Technology **was already** in place to increase the scale of production; what was needed was a system to **produce** the product.

During the last half of the nineteenth century, agriculture (as with many other **forms** of manufacturing, such as textiles) moved away from home-based, primarily craft-**based** methods of production and toward the factory model, where workers were assisted

¹¹⁰ Richard H. Sewell, "Michigan Farmers and the Civil War," *Michigan History Magazine* (December 1960), p. 370.

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by larger and more complex mechanical processes. Technology, assisted by scientific **knowledge**—both of the process and the product—revolutionized Michigan’s dairy **production** and removed farm women from the equation almost entirely. Traditionally, **farm** women, who had acquired the skill of cheese making from their mothers and **grandmothers**, made cheese in the home—hence the role of the dairymaid, a young **woman** assigned the tasks related to the home dairy.

As cheese production moved from the kitchen to the factory, the process of **making** cheese remained the same; only the scale of production increased. But as the **volume** of production increased, with some wheels of cheese weighing up to one hundred **pounds**, it soon became apparent that only males had the physical strength to work in the new **factory** system. While farm women like Lucina Perkins Horton retained the **knowledge** of cheese making, teaching the “factory men” how to make cheese, many **women** began to leave the home production of cheese making behind, preferring instead to **purchase** their cheese from local retailers. This move expanded the market for **commercially** made cheese but further distanced women from its production. There are no **women** recorded as having operated a cheese factory in Lenawee County during the **post-Civil War** period, though some women may have worked in cheese factories **anonymously** under male supervision, performing lighter tasks such as stenciling boxes or **preparing** cheese bandages.

The factory system of production included not only the physical creation of a **product** for sale, but also created the business structures and government regulations such **ventures** inevitably fostered. The factory system created a mountain of government **regulation**, as will be seen in this and later chapters. Organizing the factory as a business,

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maintaining product quality and safety, and ensuring fair pricing of goods, all required government regulation. Licensing of the operator and payment of levied fines generated revenue for government, as well.

The necessity of marketing the finished product was an offshoot of the Industrial Age. As will be seen, not all “factory men” excelled at this part of their trade. Enter the jobbers, who bought up cheese from local factory supplies then sold it in turn to larger wholesale warehouses, which were connected to even larger markets through the railroads.

Once the commercial cheese factory system was established in southeast Michigan, a unique product emerged. Referred to as “Soft Michigan” cheese, it found a ready market for more than half a century. Government regulators, college professors, local farmers, and judges at the 1893 Chicago World’s Columbian Exposition debated the essence of “Soft Michigan” cheese until the product and the process for making it disappeared early in the twentieth century. Now only the “recipe” from the Dairy and Food Commission’s factory inspection report remains.

The First Cheese Factory in Michigan

In December 1866, Rufus Baker submitted a letter for publication in the *Fifth Annual Report of the State Board of Agriculture* to secretary Sanford Howard that described in detail how he became the first commercial cheese manufacturer in Michigan. First, Baker explained that his cheese factory operated only from May to November. This short cycle of operation followed the normal lactation/calving cycles of late-nineteenth

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century dairy herds; most farmers “dried up” their herds by early winter, then “freshened” them in the spring of the next year.

In the letter, Baker describes his location in Fairfield Township as being six miles south of the city of Adrian and about eighty miles from Detroit. A wagon road to Adrian, now M-52, provided access to wider markets within the reach of the Michigan Southern Railroad. “The township (Fairfield),” Baker wrote, “was devoted mostly to grazing and the cultivation of Indian corn with about one hundred and thirty-five tons of cheese made during the season.” Baker wrote that a number of private dairies were in operation in the area beyond the reach of [his] factory.¹¹¹

Considering Secretary Howard’s prodding, Baker admits that he had given much thought to the idea of his cheese factory before he began its actual construction. “About two years ago, I turned my attention to the subject of building a cheese-factory; and in the autumn of 1865, I visited in company with a neighboring townsman, several Ohio factories. I also visited some New York factories last January, and from those I formed a plan of my factory. I commenced my buildings in January 1866, and completed them about the first of May. We used the milk from 230 cows, on an average.”¹¹²

Baker built his new cheese factory to accommodate the milk from three hundred cows, though if given the opportunity and means he would have expanded beyond that capacity. “A factory should work up the milk from at least 400 cows to make cheese-making profitable,” Baker wrote. Though he does not describe the interior of his factory in his letter to Secretary Howard, the equipment he purchased—at the time, there were

¹¹¹ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1866* (Lansing, MI: John A Kerr and Company, 1866), pp. 189-191. Factories assume that he meant his and Samuel Horton’s, also located in Fairfield Township.

¹¹² *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1866* (Lansing, MI: John A Kerr and Company, 1866), pp. 189-191.

many eastern dealers to buy from—cost nearly \$3,500. Baker suggested that those interested in following him into the cheese business make examinations into buildings and equipment for themselves before investing.¹¹³

In addition to the buildings and cheese-making equipment, Baker needed other supplies such as salt, rennets, bandages, sacking grease, and boxes. The cost of the various supplies was deducted from the patron's portion of the sale of the finished cheese, amounting to about a half-cent per pound. Patrons were the local dairymen who brought their raw milk to the cheese factory for processing on a regular basis. Patrons often owned stock in the cheese factory, receiving payment for their raw milk plus a dividend on the sale of the finished cheese. Each patron bore some expense for the selling of the cheese on the wholesale market—a price set by a committee of three men, all patrons of Baker's cheese factory. Baker received one and one-half cents per pound for his labor in manufacturing the cheese, bringing the total manufacturing costs to a little over two cents per pound.¹¹⁴

Baker's cheese brought sixteen cents per pound on the wholesale market during the summer of 1866, although, as he relayed in his letter to Secretary Howard, he hoped to realize eighteen cents per pound for the cheese made during the last weeks the factory was open, a clear fourteen cent per pound profit. Baker made nearly fifty-one tons of cheese, selling all but nine tons by the end of his first year of operation.¹¹⁵

¹¹³ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1866* (Lansing, MI: John A Kerr and Company, 1866), pp. 189-191.

¹¹⁴ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1866* (Lansing, MI: John A Kerr and Company, 1866), pp. 189-191.

¹¹⁵ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1866* (Lansing, MI: John A Kerr and Company, 1866), pp. 189-191.

The total output of Baker's factory during its first season was 112,420 pounds of green cheese, allowing for a shrinkage factor of ten percent—which to Baker seemed fair based on his earlier experience with a private dairy—bringing the total to 101,198 pounds of cheese sold to the wholesale market, or a value of \$17,203.66 at an average of seventeen cents per pound. Baker estimated that the 4,221 pounds of raw milk from each cow associated with his operation produced about 483 pounds of cheese.¹¹⁶

Extending these numbers out to the individual farms at a rate of ten cows per farm meant that at least 210 cows on twenty-one local farms supplied milk to Baker's cheese factory, the average patron receiving \$676 for the season after factory expenses of \$85 per month. So as not to raise too high the hopes of those considering a commercial cheese-making venture by increasing their own dairy herds, Baker cautioned his readers that the average price of good dairy stock that November was comparatively high and difficult to obtain. "I know a lot of six (milch cows) that were sold on the first of November at \$60 per head, within the circuit of my factory," he wrote.¹¹⁷

Baker concluded his letter to SBA by acknowledging he had "found the manufacture of cheese to be very remunerative when made a primary business, and I might say very unprofitable when made secondary." Baker admitted that, given the opportunity, he would not have started his business with so few cows, "for it does not pay for the labor and investment." Baker also considered his advice within the larger post-Civil War economic and political climate when he stated that, "should a specie basis in our currency be reached, we will not look for over ten cents per pound of cheese; and

¹¹⁶ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1866* (Lansing, MI: John A Kerr and Company, 1866), pp. 189-191.

¹¹⁷ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1866* (Lansing, MI: John A Kerr and Company, 1866), pp. 189-191.

should the number of new factories now talked of be built, the probability is that our State will be supplied with all the cheese that will be wanted here.” All in all, Baker believed the factory system to have worked a revolution in the cheese-making business, bringing better prices since its introduction.¹¹⁸

Finally, Secretary Howard asked Baker to list for his readers the number of commercial cheese factories operating in Michigan during 1866, to which Baker replied,

“I do not know that I can answer your inquiries in regard to the various cheese-factories in the State; but will give the following, in the order, as I understand, in which they commenced operations:

Fairfield Factory, 230 cows, Rufus Baker, proprietor; post-office address, Fairfield, Mich.

West Fairfield Factory, 300 cows, Samuel Horton, proprietor; post-office address, Adrian, Michigan.

Ypsilanti Factory, locality not known, S. H. Salisbury, proprietor; post-office address, Ypsilanti, Michigan.

I understand there is a factory in Livingston County, but I know nothing about it, and cannot learn that they have any cheese to market.

If there are any other in this State, I have not heard of them.”¹¹⁹

In the fall of 1867, SBA secretary Sanford Howard decided to pay a visit to the Baker and Horton farms to check on the progress of the state’s early cheese factories.¹²⁰ He found both operations in fine order and reported that “Mr. B. endeavors to make a softer cheese than is generally made in New York, with less acid, and the curd is longer in the process of cooking. All the cheese made previous to October first is what is called full-milk cheese; after that time, the night’s milk is skimmed.”

On his return to Lansing, Secretary Howard asked Rufus Baker to again submit a report to the SBA on the status of the cheese factory system in Michigan. As in the

¹¹⁸ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1866* (Lansing, MI: John A Kerr and Company, 1866), pp. 189-191.

¹¹⁹ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1866* (Lansing, MI: John A Kerr and Company, 1866), pp. 189-191.

¹²⁰ *Sixth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1867* (Lansing, MI: John A. Kerr and Co., 1867), p. 139.

previous year's report, Baker described his operation, number of employees, and the quantity and type of cheese he had produced. He also wrote that three new cheese factories were under construction in Lenawee County, one in Hillsdale County, and two in Branch County near Coldwater,¹²¹ and concluded that, "If the mania for cheese factories should increase, and many more be built, we shall have to look outside of Michigan for a market for our cheese."¹²²

Growth of Lenawee County Cheese Factories

With the immediate success of both Baker's and Horton's cheese factories, other Lenawee County farmers looked for ways to join in the process. On October 17, 1867, the Lenawee Union Cheese Manufacturing Company was formally organized as a stock company.¹²³ John R. Clark was elected its first president and served in that office and as manager for three years.¹²⁴ The location the building committee chose for the new factory was in the center of Madison Township at the "juncture of the road running west from

¹²¹ *Sixth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1867* (Lansing, MI: John A. Kerr and Co., 1867), p. 140. Baker's report fully describes the cheese factory in Hillsdale County at Reading as being owned by Fowler, Keeney and Co. Their building was one hundred feet long, thirty-two feet wide, and three stories high, of beautiful workmanship and fine material. Baker ventured to say the building was the best constructed building for a cheese factory that had been built in the state.

¹²² *Sixth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1867* (Lansing, MI: John A. Kerr and Co., 1867), p. 141.

¹²³ *Adrian Times and Expositor*, "Cheese," author unknown (November 19, 1867), p. 4. According to the newspaper account, "all the residents of the town of Madison are the stockholders of the company. Those members included the following individuals: J. W. Woolsey, D. L. Ramsdell, M. T. Nickerson, J. C. Harvey, H. C. Bradish, T. F. Moore, Spencer Knapp, F. Sherham, Asa Crane, M. W. Bradish, Richard English, C. C. Spooner, Geo. Torbron, J. R. Clark, A. W. Bradish, Harmon Childes, N. F. Bradish, E. P. Graham, C. M. Vail, S. A. Todd, William Curtiss, J. F. Jones, Wm. Crane, Daniel Todd, E. W. Miller, C. H. Bradish, Stephen Allen, A. Woolsey." The Bradishes were all near kinsmen, with N. F. becoming George B. Horton's father-in-law and C. M. Vail a relative of Rufus Baker's.

¹²⁴ W. A. Whitney and R. I. Bonner, *History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: W. Stearns and Co., 1879), p. 476. Clark was also a business partner of Rufus Baker's son Edwin during the 1870s and 1880s. John R. Clark and his brother Elihu Clark were prominent businessmen in Adrian. J. R. served in the Michigan legislature for a number of years.

Randolph's Corners and a road running north and south, on lands purchased from Messrs. Bradish and Edwards." The site is located near what is today called Madison Center.

In November 1867, a reporter from the *Adrian Times and Expositor* was invited to travel with a group of Madison Township dairy farmers as they explored the possibility of starting up a new cheese factory. The trip included a stop at both the Baker and Horton establishments. The reporter had done his homework; he noted "the statements of shipments of freight from this station (Adrian) show that the manufacture of cheese in this county has already attained a creditable prominence among our products."¹²⁵

The first stop on their tour took the Madison Township farmers to the establishment of Rufus Baker. The reporter noted that:

"Baker's is one of the thrifty-looking homesteads of our well-to-do farmers which adorn the country side. Two years ago he started the making of cheese for his neighbors, and this year he uses the milk of about 500 cows, making during the season about 3,800 cheeses, averaging 60 lbs. each. The cheese has a high reputation, and finds a ready market in Detroit, Kalamazoo, Jackson and various other towns of the state."¹²⁶

During the visit, Baker explained the daily operations of the factory. He told them he took nine and six-tenths pounds of milk to make one pound of cheese, reserving the whey for his own use, or one and three-quarters cents when the whey was fed to his patrons' hogs.¹²⁷ Baker also said he received one and a half cents per pound for the trouble of making the cheese. Additional costs to the patrons were cheese boxes made at

¹²⁵ *Adrian Times and Expositor*, "Cheese" (November 19, 1867), p. 4. The Bradishes were part of the Horton family by marriage.

¹²⁶ *Adrian Times and Expositor*, "Cheese," author unknown (November 19, 1867), p. 4.

¹²⁷ *Adrian Times and Expositor*, "Cheese," author unknown (November 19, 1867), p. 4.

a local factory,¹²⁸ the expenses of marketing the cheese, and materials used in its manufacture, such as bandages.

Next, the group moved on to the farm of Samuel and Lucina Horton. The reporter described the Horton farm as follows:

“Certainly, judging from the surroundings of a cheese factory, the business must be remunerative. The residence of Mr. Horton is well located and tastefully built, and he owns some hundreds of acres of the best land in the county. We found both Mr. and Mrs. Horton busily engaged in the manufacture of cheese. Mrs. Horton is a native of Herkimer County, famed for its fine cheese. She is a thorough mistress of the art of cheese-making and gives her constant supervision to the manufacture.”¹²⁹

The reporter noted that the Hortons were running a close second behind Rufus Baker in the manufacture of cheese. Though the quality was equally high, the Hortons were only able to produce 3,200 cheeses, compared to Baker’s 3,800, even though their individual cheeses weighed four pounds more than Baker’s. One key difference in the operations of the two factories, the reporter noted, was the use of the whey by Samuel Horton. Instead of selling the whey back to the patrons, Horton fed the whey to his own hogs. He told the assembled crowd that the whey from the milk of four cows sufficed to keep one hog and that he was on his third herd of “grunTERS this season,” putting additional money in his pocket.

¹²⁸ Vera Covell, “Fairfield Township.” In her unpublished history of Fairfield Township, Covell states that Allen N. White ran a carriage manufactory, sawmill, and gristmill in the Village of Fairfield in the early 1860s. In 1865, both businesses burned. White rebuilt his operation to include a steam-powered planing mill with machinery to make almost any kind of wood product. White became a coffin builder and in 1873 began the manufacture of cheese boxes for Rufus Baker. His sons Lewis and Orlando joined him in his business. When he died suddenly in 1877, his sons reorganized the company into White Brothers Mill. The last cheese box was delivered on November 9, 1900. The brothers operated the undertaking business until 1938, according to Lewis A. White’s biography in the *Illustrated History and Biographical Record of Lenawee County, Michigan* published in 1903. The Whites were nephews of Rufus Baker, their mother Cynthia being Baker’s sister. Page 189.

¹²⁹ *Adrian Times and Expositor*, “Cheese,” author unknown (November 19, 1867), p. 4.

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The reporter wrote that he was surprised to learn on his trip that “occasionally fraud is discovered among the patrons of the factory, some of them descending to petty dishonesty of watering the milk they bring to the factory.” The reporter noted that both Baker and Horton had use of a lactometer, “which instantly detects the presence of water, and when the dishonest patron was found and fined heavily, the proceeds of the fine going to those he has defrauded.”¹³⁰

In early spring 1867, the Michigan legislature passed several laws related to the operation of cheese factories, defining the amount of said fines and the length of jail terms.¹³¹ Most of the new laws dealt with the adulteration of raw milk, a serious crime. The first offense brought a twenty-five dollar fine, court costs, and incarceration at the county jail until the fine was paid in full. After three such offenses, fines reached more than one hundred dollars, plus court costs, with jail time exceeding fifty days.¹³²

Eight years later, the number of commercial cheese factories in Lenawee County reached twelve. Clearly marked on the pages of the *1874 Atlas of Lenawee County* were cheese factories in Dover, Medina, Palmyra, Raisin, and Rollin Townships—one each, plus three in Seneca, and four in Fairfield.¹³³ The appearance of these new factories

¹³⁰ *Adrian Times and Expositor*, “Cheese,” author unknown (November 19, 1867), p. 4.

¹³¹ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1866* (Lansing, MI: John A. Kerr and Co., 1866), pp. 34-35 of the appendix of the aforementioned volume. See Appendix for complete law.

¹³² *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1866* (Lansing, MI: John A. Kerr and Co., 1866), pp. 35-36 of the appendix of the aforementioned volume.

¹³³ *Combined Atlas of Lenawee County, Michigan* (Mt. Vernon, IN: Windmill Publications, Inc., 1997), Dover p. 91, Medina p. 121, Palmyra p. 103, Raisin p. 59, Rollin p. 79, Seneca p. 117, and Fairfield p. 111.

marks the commercialization of cheese manufacturing in Lenawee County and the state of Michigan.¹³⁴

Organizing the Cheese Factory System

With “cheese fever” on the rise in the late 1860s, other residents of Lenawee County tried their hand at the production of cheese. Martin P. Stockwell opened a cheese factory, known as the Dover Center Cheese Manufacturing Company (DCCMC), on his farm in Dover Township in 1869. According to the *Articles of Association* for the DCCMC, Stockwell owned a controlling interest with eight shares of the business, valued at twenty-five dollars per share. Most other members, all local farmers living directly adjacent to or within a two-mile radius of the Stockwell farm, owned between one and six shares of stock. The DCCMC remained in operation until 1883.¹³⁵

In March 1867, Governor Henry Crapo signed into law an act to authorize the formation of corporations for manufacturing cheese and other products from milk. This new act was based on state law already in place from 1853 to govern mining, smelting or manufacturing iron, copper, mineral coal, silver or other ores or minerals, and for other manufacturing purposes. The law stated that these new corporations must be capitalized

¹³⁴ Richard H. Sewell, “Michigan Farmers and the Civil War,” *Michigan History Magazine* (December 1960), p. 369.

¹³⁵ Chapman Brothers, *Portrait and Biographical Album of Lenawee County, Michigan* (Chicago: Chapman Press, 1888), p. 217. *Records of Religious Societies and Etc., Number One, Lenawee County, Michigan*. Collection of the Lenawee Historical Society and Museum, Adrian, MI. Other volumes in this series are located in the Archives of Michigan, Lansing, MI. Volume one begins in 1854. The records list the incorporation records for societies and small business of all sorts from 1854 through 1920s. *Combined Atlas of Lenawee County, Michigan* (Mt. Vernon, IN: Windmill Publications, Inc., 1997), Dover p. 91. A comparison of the names on the shareholder list with the plat map of Lenawee County in 1874 confirms this.

at not less than one thousand dollars and also gave shareholders holding rights and financial responsibilities in their corporation.¹³⁶

The *Articles of Association* for the DCCMC provides an interesting glimpse into the workings of early commercial cheese manufacturing in Lenawee County. On September 18, 1869, in compliance with state law, a group of forty-one farmers and businessmen from Dover and Adrian Townships signed the documents creating the DCCMC.¹³⁷ The documents record that “the object and purpose of the said association shall be the manufacturing of cheese, butter, and other products from milk and for the sale or other disposition thereof under such rules and regulations as said association may from time to time prescribe.” The association was capitalized at \$3,000 with a set number of shares—125—priced at \$25. The records show 120 shares were purchased, meeting the required \$3,000 goal set by the association. DCCMC offices were to be located on Section Twenty-two of Dover Township, on land owned by Martin P. Stockwell. The officers—a president, secretary, and treasurer—were to be elected by the stockholders at their annual meeting on February 1 each year. The association was chartered to stand for thirty years, though it lasted for just fourteen.¹³⁸

Of the forty-one DCCMC shareholders, two were related to Martin P. Stockwell directly, one being his son Joseph, the other being his son-in-law Aaron Van Ostrand, bringing the number of Stockwell family shares to fourteen. Other family names familiar

¹³⁶ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1866* (Lansing, MI: John A. Kerr and Co., 1866), pp. 34-35 of the appendix of the aforementioned volume.

¹³⁷ *Records of Religious Societies and Etc., Number One, Lenawee County, Michigan*. Collection of the Lenawee Historical Society and Museum, Adrian, MI. Other volumes in this series are located in the Archives of Michigan, Lansing, MI.

¹³⁸ *Records of Religious Societies and Etc., Number One, Lenawee County, Michigan*. Collection of the Lenawee Historical Society and Museum, Adrian, MI. Other volumes in this series are located in the Archives of Michigan, Lansing, MI. Chapman Brothers, *Portrait and Biographical Album of Lenawee County, Michigan* (Chicago: Chapman Press, 1888), p. 215.

to Dover Township residents include: George S. and Oscar Abbott, who owned six shares between them; Henry F. Townsend, who owned six shares; members of the Hathaway family, who owned eight shares; and the Bovee family, who owned four shares.¹³⁹

Soon after Stockwell put his factory into production, other cheese factories appeared in Lenawee County. The Raisin Union Cheese Factory, Raisin Township, was in operation by 1868, followed by the Maple Lawn Cheese Factory in Seneca Township in 1869, and the Riverside Cheese Factory in Fairfield Township in 1870.¹⁴⁰ These factories followed the same organizational structure set out in the state regulations.

Of all the companies mentioned, only the daily operational records of the Raisin Union Cheese Factory (RUCF) are known to survive. RUCF was operated as a stock company, much like the DCCMC, with the patrons contributing to and sharing in the factory's profits. Jacob Baker was the factory's secretary, and it is through his correspondence that we are able to discover the inner workings of the early commercial cheese factory systems in Lenawee County.¹⁴¹

From Jacob Baker's biography in the *Illustrated History and Biographical Record of Lenawee County, Michigan* (1903), we learn that he was a first cousin to Rufus Baker of Fairfield Township. Their fathers—David and John, respectively—were brothers, the

¹³⁹ *Records of Religious Societies and Etc., Number One, Lenawee County, Michigan*. Collection of the Lenawee Historical Society and Museum, Adrian, MI. Other volumes in this series are located in the Archives of Michigan, Lansing, MI.

¹⁴⁰ *Combined Atlas of Lenawee County, Michigan* (Mt. Vernon, IN: Windmill Publications, Inc., 1997), Dover p. 91, Medina p. 121, Palmyra p. 103, Raisin p. 59, Rollin p. 79, Seneca p. 117, and Fairfield p. 111. 1905 State of Michigan Cheese Inspectors Report, Food and Dairy Commission. List of cheese factories inspected in May/June 1905; three ledgers of printed and handwritten forms related to the work of the Dairy and Food Commission.

¹⁴¹ Personal Papers of Jacob Baker, Secretary of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI. Correspondence from October 1868 to September 1874. Letterhead indicates town and city locations.

sons of Moses Baker.¹⁴² Jacob Baker owned land near the RUCF in Raisin and Palmyra Townships,¹⁴³ the latter inherited from his father David.¹⁴⁴

The 1870 Agricultural Census for Lenawee County shows Jacob Baker owning 108 acres of land, most of it improved, with seventeen cows producing 4,253 gallons of milk for cheese production.¹⁴⁵ Baker's earliest correspondence related to the RUCF begins in the late 1860s and continues for more than ten years. Through Baker's papers we find such information as the RUCF distribution systems, the quality of the company's products, and the factory's operational costs. For example, Baker was shipping RUCF products to the following locations: Blissfield, Detroit, Sturgis, Adrian, Marshall, Manchester, Lansing, and Battle Creek (all located in Michigan); La Porte and Elkhart (both in Indiana), and even New York City.¹⁴⁶

Baker was able to compete in such a wide marketplace because the RUCF was located near a railway depot. The Jackson Branch of the Lake Shore and Michigan Southern Railway line ran track through Raisin Center along with the aforementioned

¹⁴² Compiled family genealogies of the Baker family from various biographies in the following texts. John I. Knapp and R. I. Bonner, *Illustrated History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: The Times Printing Co., 1903), pp. 142-145, 148-150, 188-190. Moses Baker was originally from Massachusetts, later settling in Macedon, Wayne County, New York. Baker removed to Michigan in 1832 after having worked to build the Erie Canal. Other Wayne County, New York residents familiar to Moses Baker, having also made their pilgrimage to Michigan included Levi Shumway, a brother-in-law of Baker's son John; Addison Comstock and Darius Comstock, founders of Adrian; the Westgates, Bowermans, and Havilands, all Quakers settling in Raisin Township. Two of Moses Baker's sons settled with him in Fairfield Township, Lenawee County; another son settled in Raisin Township.

¹⁴³ *Combined Atlas of Lenawee County, Michigan* (Mt. Vernon, IN: Windmill Publications, Inc., 1997), Palmyra p. 103, Raisin p. 59.

¹⁴⁴ John I. Knapp and R. I. Bonner, *Illustrated History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: The Times Printing Co., 1903), p. 148.

¹⁴⁵ 1870 United States Agricultural Census, Schedule 3—Productions of Agriculture in Raisin Township, in the County of Lenawee, in the Post Office: Adrian, Michigan, pp. 11-12. Details related to Jacob Baker, item 8.

¹⁴⁶ Records of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI. Correspondence from October 1868 to September 1874. Letterhead indicates town and city locations.

Michigan towns.¹⁴⁷ From this convenient location, Baker could ship RUCF-made cheese to almost anywhere the rail lines could go, including New York City.

Having access to a railhead also benefited the cheese companies managed by Rufus Baker and Samuel Horton. Both Baker and Horton were within a few miles of a town large enough to have rail transportation. Not being near a railway depot may have been a factor in the early closing of Martin P. Stockwell's Dover Center Cheese Manufacturing Company.¹⁴⁸

It is not known whether Jacob Baker was both secretary and cheese maker for the RUCF. If he was not the cheese maker, the identity of that person is unknown. Apparently, as secretary for the RUCF, Baker was responsible for filling orders, collecting payments, and listening to complaints from factory customers. His records for the company give us a picture of the issues involved in marketing cheese. Baker's early correspondence shows him to be taking orders from a variety of retailers in a one hundred to two hundred mile radius from Raisin Center.¹⁴⁹ Beginning in August 1871 and continuing until September 1874, orders coming into the RUCF were both large and small. The smallest orders were for two cheeses and the largest for twenty-five,¹⁵⁰ while

¹⁴⁷ *Combined Atlas of Lenawee County, Michigan* (Mt. Vernon, IN: Windmill Publications, Inc., 1997), Raisin p. 59. The track still exists today. D. C. Henderson, *Manual for the use of the Legislature of the State of Michigan, 1869-70* (Lansing, MI: W. S. George and Co., 1870), p. 215.

¹⁴⁸ Both Rufus Baker's and Samuel Horton's cheese factories were located near the Chicago and Canada Southern Railway Company (C&CS) Railroad lines, which were later bought out by the Lake Shore and Michigan Southern. The Lake Shore and Michigan Southern passed north of Martin Stockwell's farm, but had no depot nearby. Without a depot, trains were flagged down.

¹⁴⁹ Rail distance chart in the Michigan Manual shows La Porte, Indiana to be approximately 160 miles from Raisin Center. Most of the more frequent correspondence comes from within that range of distance. New York City is of course much farther, but only one piece of correspondence mentions such a distance. D. C. Henderson, *Manual for the use of the Legislature of the State of Michigan, 1869-1870* (Lansing, MI: W. S. George and Co., 1870), p. 215.

¹⁵⁰ Letters dated August 1871 and September 1873 asked for two cheeses per order. The largest order for twenty-five cheeses is dated June 1871 at Detroit. Records of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

the average order was five to six cheeses. Larger orders for cheese invariably came from larger communities. The following are some sample orders from the 1870s. All were handwritten and appear either on company letterhead or simply on lined paper.

August 9, 1871—Blissfield, Michigan. Please send me 2 Cheeses as soon as possible, take to Lenawee Junction and send by Baggage man.¹⁵¹

June 16, 1871—McDonald, Haywood and Co., Detroit, Michigan. Check for \$160.42 for 25 boxes of Cheese.¹⁵²

June 30, 1873—Manchester, Michigan. Send me twelve more cheeses and bill them at the lowest asking prices.¹⁵³

August 26, 1873—Lansing, Michigan. You may please send us 10 good July and August cheese ... bill at the lowest rates.¹⁵⁴

It appears from this small sampling of correspondence that the RUCF began taking orders for cheese each year in May. This is noted in two letters, one dated May 6, 1872 and another dated May 7, 1874.¹⁵⁵ Most nineteenth century cheese factories began taking in milk for processing as early as April.¹⁵⁶ Based on this, the RUCF would have had cheeses at least thirty days old by the end of May and sixty days old by the end of

¹⁵¹ Letter dated August 9, 1871, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁵² Letter dated June 16, 1871, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁵³ Letter dated June 30, 1873, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁵⁴ Letter dated August 26, 1873, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁵⁵ Letters dated May 6, 1872 and May 7, 1874, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁵⁶ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1866* (Lansing, MI: John A. Kerr and Co., 1866), p. 190. In his report to the secretary of agriculture in 1866, Rufus Baker notes that he began cheese production in April.

June. The cheese would have aged enough at this point to be safe to market to the general public. Trying to beat the rush of orders, a Marshall, Michigan merchant writes Baker in May 1872: “When you get your cheese ready to put into market, please send me 4 or 5.”¹⁵⁷

No matter the year, as the summer wore on, orders to the RUCF began to increase. By fall, the drying rooms were full and the clamor for cheese was heard throughout Michigan and as far away as the state of New York. “Enclosed please find a check for \$167.25. Please let us know what you will sell cheese for at present,” writes a Sturgis, Michigan merchant on October 18, 1871.¹⁵⁸ A Blissfield, Michigan merchant writes on September 6, 1873, “Please send two cheese . . . immediately!”¹⁵⁹ This is followed by a letter dated November 20, 1873 from a Lansing, Michigan merchant, “When can you send me some good cheese? For cash . . . use your lowest figures.”¹⁶⁰

Then the market slows. On November 20, 1873, a Manchester, Michigan merchant writes Baker, “I would say I do not intend to lay in any more cheese than I have got on hand. I do not see any money in cheese. I expect to buy cheese from now until next spring just as cheap as I can buy it at the present time.”¹⁶¹

¹⁵⁷ Letter dated May 6, 1872, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁵⁸ Letter dated October 18, 1871, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁵⁹ Letter dated September 6, 1873, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁶⁰ Letter dated November 20, 1873, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁶¹ Letter dated November 20, 1873, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

Apparently the Michigan market was glutted. Seeming to have anticipated this change, Baker begins correspondence with Smith and Underhill—Produce Commission Merchants of New York City—in spring 1874. Their May 7, 1874 reply to his May 4 letter is as follows:

“We will handle your cheese at 5% which will cover all charges (except freight and cartage) including labor, storage, insurance and guarantee, and as soon as the cheese are here and sold we forward of sales and check to balance, not waiting until collections are made. We would like to have a small shipment as soon as you have any ready for market. Most of the western cheese coming this way now are skimmed full creams and would sell well at 15 to 15¹/₂ cents and if really choice a trifle more.”¹⁶²

Baker had found a fair price and a new market for his Michigan-made cheese. However, his dealings with other merchants closer to home in the earlier part of the decade had not been so profitable. Detroit merchants McDonald, Haywood and Company wrote on June 16, 1871, “We have sold below 12 cents, but have seen from a grocery House today, 11¹/₂ cents to a retailer, which shows the tendency to go still downward.”¹⁶³ The following August, McDonald, Haywood and Company wrote Baker that “we will be pleased to handle some of your cheese this season and will try and do you justice, but we want of you Common shipping.”¹⁶⁴

Only a few letters in the RUCF collection allude to the kind of cheese being produced and the potential need to tailor product to market demands. On August 1, 1872, McDonald, Haywood and Company asked Baker to send them “for the first cheese made, those that weigh

¹⁶² Letter dated May 7, 1874, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁶³ Letter dated June 16, 1871, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁶⁴ Letter dated August 1, 1872, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

about 40 to 45 lbs.”¹⁶⁵ This was the typical size of cheese purchased by produce and grocery vendors. The large round was used as a display piece, from which smaller pieces were cut and sold to individual customers. A wheel of cheese weighing forty to forty-five pounds was often hard to handle, especially for the average housewife or female clerk.¹⁶⁶

In his 1866 report to the governor on the state of Michigan’s agriculture, SBA secretary Sanford Howard addresses the issue of the size of a wheel of cheese. Howard’s comments were made at the dawn of commercial cheese manufacturing in Michigan in the hopes that cheese producers would be in tune to the prevailing market trends. “Many of our factories and family dairies,” Howard wrote, “continue to make a large-sized cheese. They have the old hoops on hand, and cannot see the reason why large cheeses should not be as saleable and command as high a price in the market as formerly.” Howard agreed with the dairymen that there were certain advantages to making larger cheeses: less bandage material was required; less labor was needed in handling the cheese while it cured; less shrinkage occurred; and less expense was incurred in making boxes that fit the cheese for shipping.¹⁶⁷

Still, Howard argued that both retailer and consumer would appreciate that, with a smaller cheese, there was less breakage, handling was easier, shipping was more economical, and consumers would enjoy more cheese if it could be purchased in smaller amounts. Howard suggested in his report to the governor that cheese for the export market, particularly England, be made up in fifteen-inch rounds twelve inches thick, or “flat rounds” five or six inches high

¹⁶⁵ Letter dated August 1, 1872, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁶⁶ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1866* (Lansing, MI: John A. Kerr and Co., 1866), p. 219. In this report to the governor, the secretary of Michigan’s State Board of Agriculture, Sanford Howard, makes the following reference to women: “We may remark here that in England the shops for retailing cheese are often kept by women, who are unable readily to handle a heavy cheese.”

¹⁶⁷ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1866* (Lansing, MI: John A. Kerr and Co., 1866), p. 218.

pressed in fifteen- to seventeen-inch hoops. For the home trade, Howard suggested cheese pressed in eight- to eleven-inch hoops and weighing ten to twenty pounds.¹⁶⁸ In the end, Howard concluded that the cheese maker would have to work with his individual market to sell the best possible cheese he could produce. Many factories were slow to adapt to this request.

Weight aside, color also appeared to be an issue. In a letter dated August 12, 1873, Shull Brothers, located in the Lansing House Block in Lansing, Michigan, added this comment on the bottom of their cheese order to Jacob Baker: "Send us 10 cheese of the bottom of market. I would like the cheese if they were a little yellow color just enough to look right. Be shure [*sic*] to give us good cheese."¹⁶⁹

While it may never be known what the cheese made by the RUCF may have looked or tasted like, the correspondence Jacob Baker had with his customers is filled with both compliments and complaints. For example, in a letter dated June 16, 1871, the firm of McDonald, Haywood and Company of Detroit, Michigan, wrote, "We have a customer who cares especially for "Raisin Union" cheese. We hope to not be out of it long."¹⁷⁰ In a letter dated August 18, 1871, a customer from Blissfield, Michigan said, "We wrote you last week that the 2 cheeses which we ordered of you were damaged and that we could not use them and that we held them subject to your order. Please tell us what to do with them. Shall we return them by freight or will you come after them."¹⁷¹ From La Porte, Indiana, a customer gives this left-handed

¹⁶⁸ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1866* (Lansing, MI: John A. Kerr and Co., 1866), p. 219.

¹⁶⁹ Letter dated August 12, 1873, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁷⁰ Letter dated June 16, 1871, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁷¹ Letter dated August 18, 1871, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

compliment: “The cheese I get from thee is not so good as the Rollin (Cheese Factory), but is fair. Thee may send me 4 or 5 and I will sell them for thee.”¹⁷²

Judging by the correspondence, the quality of RUCF’s cheese was worst in 1872. As the year wore on, the complaints Baker received seemed to grow in proportion. In a letter dated July 9, W. Kirchgessner, proprietor of the Manchester (Michigan) Bakery, told Baker, “Please send me six good No. one cheese. The last cheese I got from you they was very poor. You charged enough, but the cheese was not what it ought to be. If you care any thing about my traid [*sic*]. You want to serve me a good quality if not, you can let me know.”¹⁷³

Despite the poorer quality, long-time customers still continued to buy from Baker. Detroit, Michigan merchants McDonald, Haywood and Company wrote in August, “What Cheese we have left of yours on hand are hard and does not seem to take very well—will close them out soon as possible and report if you could send us about 10 real firm ones.”¹⁷⁴ Other customers were more to the point, as this Lansing, Michigan vendor wrote in October: “Your cheese falls short in weight.”¹⁷⁵ The following October (1873), still frustrated by the quality of the RUCF cheese, one Lansing, Michigan customer decided to take matters into his own hands. Writing to Baker he said, “You will please find enclosed draft for \$55.00 for bill cheese. I have deducted \$1.13 for shipping cheese lost. I had to cut a good deal out of our best thick it will

¹⁷² Letter dated November 5, 1872, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁷³ Letter dated July 9, 1872, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁷⁴ Letter dated August 14, 1872, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁷⁵ Letter dated October 3, 1872, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

make no wheel.”¹⁷⁶ Despite such difficulties, the RUCF continued to make and ship cheese. In a letter dated December 6, 1871 at Adrian, Michigan, cheese box manufacturers Nixon and Holdridge sent a bill for payment of 960 cheese boxes sent between June 19 and October 24, 1871. The bill totaled \$40.75, or \$.0424 per cheese box.¹⁷⁷

At the beginning of the 1870s, the United States suffered a brief economic disturbance, noted in history as the Panic of 1873. Prices fell and an economic depression deepened. Times were hard for the RUCF as Baker tried to meet factory expenses; his customers struggled financially to pay their own debts. In a letter dated June 7, 1872, Baker requests a change in payment terms from one of his Elkhart, Indiana customers. Their response was one of confusion: “In your first letter, you stated from terms to the 60 days to responsible parties in lots of 5 cheeses or more. But in your later bill of 5 cheeses to us, you specify terms 30 days. So of course we are led to infer that you do not consider us responsible parties. How is this?”¹⁷⁸

A few of Baker’s customers were resorting to bank loans to meet their order payments. In a letter dated January 28, 1874, one Manchester, Michigan customer wrote,

“I wish to inform you that I did not ‘construe’ your language. You only trapped me in the trap you had set for me. When I wrote for my account, why did I not receive it? It was only done for me to suppose that was a deduction. And it was a bad time to raise money, which you well knew and by so doing you put me to the expense of loaning it at the Bank. And you write that you was not so hard up, that you needed the money so bad that you had to discount. What does that mean? The letter I received at the time states different. It proclaimed that you are very hard up for money and so on. But at the same time to make a long story short

¹⁷⁶ Letter dated October 10, 1973, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁷⁷ Letter dated December 6, 1871, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁷⁸ Letter dated June 7, 1872, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

I will send you ten dollars and I will have to think I gave it to you and if you want more just write and I will send you more.”¹⁷⁹

As the nationwide panic deepened, Baker began to lose his customers to the economic hard times. One Blissfield, Michigan customer wrote Baker on April 6, 1874,

“My financial circumstances compel me to drop you a line in regard to payment of the balance of account due us. I have had to hire money to satisfy demands against me in order to accommodate. We expect to leave Blissfield one week from today and we desire to settle up all our Business at that time. Please remit the balance this week.”¹⁸⁰

As Baker’s customers were facing their own financial problems, the RUCF was having trouble of its own. Correspondence shows that Baker had apparently ordered some equipment from a dairy apparatus and furnishing goods company, located in Utica, New York, which was never delivered. Even though Baker had written them that the equipment never arrived,¹⁸¹ Jones, Faulkner and Company threatened to sue Baker for payment.

Jacob Baker was neither a cheese maker nor a particularly good businessman, but he had a higher calling. His correspondence for RUCF stops by 1875, most likely because of his responsibilities as an elder in the Raisin Center Society of Friends church. Baker became the minister of that congregation in 1870. Then, in 1880, Baker took the helm of a Society of Friends church in Green Plains, Ohio, and thereafter traveled the nation, visiting other congregations and

¹⁷⁹ Letter dated January 28, 1874, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁸⁰ Letter dated April 6, 1874, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

¹⁸¹ Letter dated October 20, 1873, correspondence of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

coming back to Michigan for only brief visits.¹⁸² According to an entry in the *Michigan State Gazetteer* in 1883, Jacob Baker turned over the reins of the RUCF to his cousin, Rufus Baker. The listing reads: “Raisin Centre, Michigan: Baker, Jacob, Elder (Friends), Baker, Rufus, sec. Raisin Union Cheese Factory.”¹⁸³ By 1893, the RUCF no longer appears on the Lenawee County plat map, nor is the factory listed as one of those inspected by the Dairy and Food Commission’s agent in 1905.¹⁸⁴

Twelve cheese factories were shown on the various Lenawee County township maps in 1874. Twenty-five years later, there would be double that number in the county and hundreds more around the state. The new industry would find itself under publicly mandated inspection and regulation. Huge fortunes would be made in marketing cheese, both regionally and internationally. Science and technology would lower health risks to consumers and ensure that only the best dairy products were made into cheese. This new body of knowledge would find its way into the classrooms of the MAC. Science, technology, education, regulation, and money would contribute to “cheese fever” on even the humblest of dairy farms in Lenawee County, just as Rufus Baker had predicted it would.

¹⁸² John I. Knapp and R. I. Bonner, *Illustrated History and Biographical Record of Lenawee County, Michigan* (Adrian, MI: The Times Printing Co., 1903), p. 148-149. “Mr. Baker has received credentials from his church for evangelistic work in various parts of the country, reaching from Maine to California, and has attended ten Friends Yearly Meetings of America and is now in 1903 the oldest active member in the Ohio yearly meeting.”

¹⁸³ R. L. Polk and Co., *Michigan State Gazetteer and Business Directory* (Detroit: R. L. Polk and Co., 1883), p. 1276.

¹⁸⁴ *Combined Atlas of Lenawee County, Michigan* (Mt. Vernon, IN: Windmill Publications, Inc., 1997), Raisin p. 59. 1905 State of Michigan Cheese Inspector Report, Food and Dairy Commission. Archives of Michigan, Lansing, MI.

III

What is “Soft Michigan” Cheese?

Lenawee County’s twelve commercial cheese factories were not making just any sort of cheese during the late nineteenth and early twentieth centuries. The cheese being produced by the Hortons, Bakers, and Stockwell was a unique type called “Soft Michigan.” Dairy and Food Commission Special Inspector E. A. Haven once described “Soft Michigan” as follows:

“Michigan cheese, the genuine Michigan, found nowhere else on earth; soft, mild, porous, good in twenty days or safe for sixty. The cheese that pleases the eye of the maker, and tickles the palate of the consumer, cannot be made without the use of two articles; one supplied by the cow—pure milk—the other by the man who handles the product, gumption.”¹⁸⁵

Other descriptions of “Soft Michigan” cheese included:

““Soft Michigan’ cheese has holes of varying sizes, is soft as opposed to the hard texture of cheddar, ranges in color from white through shades of yellow and red, is not made by the cheddar process, is without an acid taste, and is well-liked by those from the state that shares its name.”¹⁸⁶

Even members of the Michigan Dairymen’s Association (MDA)¹⁸⁷ and faculty at MAC were frustrated by their seeming inability to pigeonhole this product. Michigan’s dairymen believed that “Soft Michigan” cheese was fine the way it was, while the faculty

¹⁸⁵ *State of Michigan, Dairy and Food Commission, Bulletin No. 16, December 1896* (Lansing, MI: Robert Smith and Co., 1896), p. 8.

¹⁸⁶ Author’s description created from a multitude of sources.

¹⁸⁷ The Michigan Dairymen’s Association was founded in 1884 to promote the state’s dairy interests. Cheese production was only one of their concerns; others included butter production (often a larger interest than cheese), care and breeding of stock, and science, technology, and education related to the industry. Annual meetings were held at different locations around the state each year. George Byron Horton and Rufus Baker were life members of the organization.

at MAC struggled with the need to teach a method for making it that could be demonstrated in the classroom and then replicated in the factory setting.

The process for making most types of cheese is very simple in general and is the same no matter the volume of milk used or the type of cheese being created. The milk is heated, brought to a certain temperature, and held there. A “starter” of some form is added, causing the curd or fat in the milk to form and divide itself from the whey. The curds are then cut into smaller pieces and the whey drained off; then the curds are formed into wheels or bricks, which are pressed. The new or “green” cheese is dried on a shelf for a given number of days before being prepared for market.

Cheese-making in the later half of the nineteenth century and the early twentieth century was both a craft and a science. Local environmental conditions, the experience of the maker, and the quality of the milk used in the process all determined the quality of the final cheese product. Dairy and Food Commission Special Inspector Charles O. Bradley was required in 1905 to note the basic recipe used by each individual cheese maker in his inspection reports. Bradley’s role as Dairy and Food Commission Special Inspector will be discussed in a later chapter.

The basic procedure, according to Bradley’s notes, was as follows: “Set 85 degrees, cook 102, hold in whey 2½ hours, stirred in sink till ½-inch acid is developed, hot iron test.”¹⁸⁸ All but two of the Lenawee County cheese makers in the spring of 1905 followed this process. This formula is the only documented “recipe” for “Soft Michigan” cheese.

¹⁸⁸ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

“Set 85 degrees” meant that all the milk gathered from patrons the night before was combined, after it had been skimmed, with the milk from the morning, and was heated to 85 degrees in a long, low, rectangular, steam-heated vat. Some cheese makers skimmed their milk while others did not, hence the use of the term “full cream.” Before the milk was placed in the vat, it had already undergone several inspections by the cheese maker, which Bradley noted in his reports.

As already mentioned, there were heavy fines and jail terms for any patron of a cheese factory that was caught “watering” or adulterating milk in any manner. These laws were put in place at the beginning of commercialization but, prior to the implementation of the Babcock Test in 1890, such crimes were easy to commit. Before the Babcock Test and short of detecting a bad smell, cheese makers would not know they were using bad or contaminated milk until after the cheese had been made.

The Babcock Test—a reliable analysis that was quick and simple to undertake—was created by Stephen Moulton Babcock, professor at the University of Wisconsin, while a researcher at the Agricultural Experiment Station at Madison. Prior to the test, cheese makers had no method to detect the amount of butterfat in milk, and consequently no basis for paying the patron for his milk except by the weight of the contents in the individual milk can. Based on this early method of payment, the unscrupulous patron could “water” his milk, increasing the volume but lowering the quality of the milk and the resulting cheese. Babcock felt that his test would prove so valuable to the industry that he never patented it. “Whether this test will find a place among those (tests) already introduced, time alone can decide,” wrote Babcock. “In the hope that it may benefit some

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who are striving to improve their stock and enable creameries to avoid the evils of the present system, the test is given to the public.”¹⁸⁹

In 1898, the University of Wisconsin developed the Wisconsin Curd Test. The test was really a miniature cheese-making operation, designed to isolate curdled, ropy, or badly tainted milk before it spoiled a whole batch of cheese.¹⁹⁰ Ten drops of rennet were added to a sample of milk in a small jar and allowed to set until the curd formed, after which the curd was held at 98 degrees for a specified length of time and then examined. Tainted curd pointed to only one factor, tainted milk. Patrons caught with tainted milk could be fined and no longer allowed to sell their milk to the local cheese factory.¹⁹¹

Sixteen out of the twenty-six factories Bradley inspected in 1905 used the Babcock Test. All of the factories owned by George Byron Horton and C. C. Colvin used it, while only two establishments—the Onsted Cheese Factory and Bogert’s Cheese Factory—used the Wisconsin Curd Test instead. Part of the reason most of Lenawee County’s cheese makers were not using the Wisconsin Curd Test may have been that a negative test of the curd often produced pin-holes and a bad odor.¹⁹² While the basic description of “Soft Michigan” cheese never mentions a bad odor from tainted milk, the cheese was specifically designed to produce holes in the curd.

¹⁸⁹ Stephen M. Babcock, “A New Method for the Estimation of Fat in Milk, Especially Adapted to Creameries and Cheese Factories,” *Seventh Annual Report of the Agricultural Experiment Station*, Madison, Wisconsin, 1890, p. 98-113.

¹⁹⁰ Steven K. Hamp, “From Farm to Factory: The Development of Equipment and Process in the American System of Cheese Manufacture.” Master’s thesis, University of Michigan, Ann Arbor, MI, 1978, p. 86.

¹⁹¹ Steven K. Hamp, “From Farm to Factory: The Development of Equipment and Process in the American System of Cheese Manufacture.” Master’s thesis, University of Michigan, Ann Arbor, MI, 1978, p. 86.

¹⁹² Steven K. Hamp, “From Farm to Factory: The Development of Equipment and Process in the American System of Cheese Manufacture.” Master’s thesis, University of Michigan, Ann Arbor, MI, 1978, p. 86.

Eight factories on Bradley's inspection route used neither the Babcock Test nor the Wisconsin Curd Test. Those cheese makers not using either of these relatively new tests had a minimum of ten years of experience making cheese and, in some cases, almost thirty years. These individuals no doubt considered themselves craftsmen and their long experience dictated their practices.

Four of the young men working as cheese makers in Lenawee County had recently graduated from MAC with short course work related to cheese making. Of these, one used the Wisconsin Curd Test and not the Babcock Test, two used the Babcock Test and not the Wisconsin Curd Test, and one young man used neither. With one exception, these recent graduates were using their scientific training to make cheese. Their experience level and training would not have allowed them to do otherwise.

Somewhere between the craftsman's experience and the scientific method stood C. C. Colvin and George Byron Horton. Both men were experienced cheese makers who understood that cheese making was both a craft and a science, perfected by a college education and good quality milk. Colvin employed graduates of MAC, while Horton had sent his sons Norman and Samuel to MAC. Both Colvin and Horton were businessmen. They knew enough about their industry to want to learn more. They wanted to produce the best product possible, ensuring the greatest amount of profit. They believed that these scientific testing methods would produce the best possible cheese under the right conditions, and they did.

Over the coming years, the use of the Babcock Test would become more and more important to the manufacture of cheese in Michigan. The dairy short course at MAC, introduced in the late 1890s, incorporated the test into the curriculum. In 1919, a

law (Act No. 409, P.A. 1919) was passed that required all those employed in testing milk or cream to have a license to use the Babcock Test, and provided a penalty for violations.

“Every person who shall test milk or cream in this State by the ‘Babcock’ method for the purpose of determining the percentage of butter or milk fat contained therein, where such milk or cream is bought and paid for on the basis of the amount of butter or milk fat contained therein, shall first obtain a license from the Food and Drug Commissioner. A License fee of one dollar for each license so granted shall be paid to the Food and Drug Commissioner.”¹⁹³

Licenses were good for one year. The penalty for violations included being charged with a misdemeanor, and upon conviction being charged with a one hundred dollar fine and costs of prosecution, or by imprisonment in the county jail for a period of not more than two months, or all of the above at the discretion of the court.¹⁹⁴

When the law went into effect in 1919, persons wishing to become licensed had until September to take the exam. The prerequisites to the examination included a course in testing by the Babcock method in some school, or through private instruction and study, together with not less than three days practical experience. The nearest testing stations to Lenawee County were in Hillsdale or Jackson Counties. Those taking the test had to receive at least seventy points on a one hundred-point examination. The points were broken down in the following manner: education/instruction, twenty points; experience, twenty points; and demonstration, sixty points. If the applicant failed the test, he or she was barred from retaking the exam for thirty days.¹⁹⁵

¹⁹³ Herman D. Wendt, *Special Circular, State of Michigan Food and Drug Department, Lansing* (Fort Wayne, IN: Fort Wayne Printing Co., 1919), p. 2-3.

¹⁹⁴ Herman D. Wendt, *Special Circular, State of Michigan Food and Drug Department, Lansing* (Fort Wayne, IN: Fort Wayne Printing Co., 1919), p. 4.

¹⁹⁵ Herman D. Wendt, *Special Circular, State of Michigan Food and Drug Department, Lansing* (Fort Wayne, IN: Fort Wayne Printing Co., 1919), p. 4-5.

For those who managed the cheese factories and those who made the cheese, the quality of their product was dependant on the milk supply from the factory patrons. Part of Bradley's job was to inspect the quality of the milk being brought to the factory. One of the ways to do that was to inspect the milk cans used by the patrons. Each milk can belonging to a particular patron was given a series of numbers, which provided the owner's identity and location. Bradley had the ability to track the individual cans back to their owner's farms where he could judge the quality of the milk for himself. The majority of the patrons' milk cans received an overall good rating from Bradley, while two received a fair rating and one received a first class rating.¹⁹⁶

The first class rating went to cheese maker Willis Burger of the Clayton Cheese Factory, owned by C. C. Colvin. The fair ratings went to Fred Bryan (Medina Cheese Factory), also owned by C.C. Colvin, and A. B. Greer (Hudson Centre), owned by Michael Dillon. Burger, Bryan, and Greer were graduates of the MAC cheese short course where they had studied, among other things, factory operations and sanitation. While they could not necessarily control the farm conditions under which their patrons' milk was produced, each man certainly had the knowledge and authority to correct such problems when patrons dropped milk at their factory.

The fact that the two extremes of "first class" and "fair" are both represented by factories under the ownership of C. C. Colvin shows the independence of each local factory and its patrons. Colvin owned at least three of the Lenawee County cheese factories Bradley inspected in 1905.¹⁹⁷ Colvin's apparent inability to manage his

¹⁹⁶ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

¹⁹⁷ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

operations for consistent overall quality is also evident in Bradley's report; this was due in part to the varying quality of the milk taken in from his patrons. Hauling milk to a centrally located factory was a relatively new concept in dairy production at the dawn of commercialization. Most of Lenawee County's dairymen were located within a two-mile radius of their local cheese factory. With unimproved roads, the chances that the milk could be churned into butter over the length of the often twice-daily trip were great, especially in warm weather. To solve this problem, "factory cans" were standardized beginning in the 1870s. The factory can was a heavy-duty cylindrical container, holding twenty, thirty, or forty gallons of raw milk. Larger cans also required less cleaning time than smaller ones. Most dairymen of the day recommended cans manufactured by the Iron-Clad Can Company of New York.¹⁹⁸ As the factory system became more standardized, improvements were made to the milk cans by modifying them with insulated wooden or felt jackets for coolness, floating lids that rode on the surface of the milk to prevent churning in transit, and ventilated covers to allow the "cowy" odor of freshly drawn milk to dissipate during the trip.

Returning now to the factory process, after the cheese maker completed the testing of each patron's milk and recorded the payment for same, he proceeded to pour all of the milk into a large vat. To do so, the patron would pull his cart up to the side of the factory, where a platform had been built to the common height of a wagon box. The factory cans were lifted by a small crane to the opening of the weigh can, set on a platform scale. Weigh cans typically ranged in size from forty to ninety gallons and were equipped with discharge gates at the bottom; from there the milk would flow down

¹⁹⁸ Steven K. Hamp, "From Farm to Factory: The Development of Equipment and Process in the American System of Cheese Manufacture." Master's thesis, University of Michigan, Ann Arbor, MI, 1978, p. 26.

toward the vat. A large tin floor funnel with a wide, flat mouth, called a conductor head, channeled the flowing milk. The funnel was designed with removable sections so that all the vats in the room could be reached.

The vats were large, rectangular, double-lined tanks with a drain at one end, and were made of well-soldered tin and clear pine, many with special vat tippers or levers to raise one end for quick release of the whey.¹⁹⁹ The vats were designed to serve as both an overnight cooling system and then as a cooking system when the milk was processed the next day. Most vats had a holding capacity of five hundred gallons of raw milk. In their function as a cooling system, some vats were designed with boxes on the end to hold block ice or with slits to push crushed ice between the vats' sidewalls. The Whitman and Burrell Company of Little Falls, New York introduced the first combination vat in 1878. This model had a water-filled partition that was lowered into the center of the milk overnight. The vat could be used for either deep-set cream rising for butter making or milk setting for cheese.²⁰⁰ Some early cheese factories made both butter and cheese, but by 1905 in Lenawee County, the two processes had separated into individually run cheese factories and creameries.

To serve as a cook tank, steam was pushed between the outer shell of the tank and the metal inner lining of the vat. The steam was regulated to raise the temperature of the milk and then hold the temperature for the required cook times. The majority of the factories Bradley inspected in 1905 were powered by steam, though at least four were

¹⁹⁹ Steven K. Hamp, "From Farm to Factory: The Development of Equipment and Process in the American System of Cheese Manufacture." Master's thesis, University of Michigan, Ann Arbor, MI, 1978, p. 26.

²⁰⁰ Steven K. Hamp, "From Farm to Factory: The Development of Equipment and Process in the American System of Cheese Manufacture." Master's thesis, University of Michigan, Ann Arbor, MI, 1978, p. 28.

listed as self-heating.²⁰¹ The power source for the steam came from a boiler driven by a small six-horsepower engine. The cheese maker not only had to know how to make cheese; he was also a small engine mechanic and boiler operator. Boiler explosions of all types were common and extremely dangerous at the turn of the twentieth century.

The steam heating of the vats in a typical turn-of-the-twentieth-century cheese factory is best described as follows:

“Open tank steamers were separated from the vat, connected to it by two series of water and steam pipes. A masonry firebox enclosed a coil of pipes and supported a circular or square water tank on the top. When heated, the pipes formed a circulation with both the water tank and the vat, and either or both could be heated at one time. When the milk was set, valves turned the hot water and steam in the pipes into the vat only; contact with the cooler water in the vat liner condensed the water to steam. Circulation between the vat and the coil of pipes in the firebox continued until the right temperature had been reached. Then the valves were closed and the circulation of hot water re-commenced with the supply tank, providing hot water for cleaning or to heat other vats. Steam boilers grew in popularity, surpassing other methods in the larger factories during the 1880s to 1890s; in addition to heating evenly, a constant supply of steam and hot water was on hand for cleaning utensils.”²⁰²

The largest steam boiler in operation among the Lenawee County cheese factories was a twenty-horsepower engine owned by Glen Smith of the Wolf Creek Cheese Factory. Smith was both the cheese maker and the owner of the factory. Two of C. C. Colvin’s cheese factory vats operated on ten-horsepower engines, the third being operated by a seven-horsepower engine.

George Byron Horton operated his factories under a variety of power systems, with his engines averaging about six horsepower. The Jasper Cheese Factory, which

²⁰¹ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

²⁰² Steven K. Hamp, “From Farm to Factory: The Development of Equipment and Process in the American System of Cheese Manufacture.” Master’s thesis, University of Michigan, Ann Arbor, MI, 1978, p. 29-30.

Horton purchased from B. E. Peebles in 1901, had a fifteen-horsepower engine—the third largest in the county designed for such work, according to Bradley’s inspection report.²⁰³ Several of Horton’s factories were operated by a self-heating system. These systems were found in Horton’s oldest operations, including his Home Cheese Factory located on his farm at Fruit Ridge. It appears from Bradley’s report that Horton modernized his operations as he acquired new factories, although not going back to re-outfit his older plants.

The early design of the self-heating vat worked in the following manner:

“Self-heating vats had a contained heat source; hence their wide use in restricted spaces and operations too small to warrant a steam generator. A cylindrical firebox, usually of copper, was mounted along the bottom of the vat. In some self-heaters, the firebox was fired with wood, warming the water layer, which in turn warmed the milk. The warm or hot water could be retained in one end, or allowed to circulate under and around the milk in the tin tray. Interior channels conducted the hot water to the sides of the vat, then back down to the bottom to be re-heated. A pipe mounted on the end opposite the firebox conducted the smoke away. O’Neill’s self-heater, patented in 1862, and Ralph’s vat of 1864, both of New York, were early models that remained popular for several decades.”²⁰⁴

All the cheese factories in the county in the spring of 1905, with the exception of two, had at least two if not three vats for processing milk. George Horton Rorick, nephew of George Byron Horton, owned the largest number of vats. Rorick had inherited the Maple Lawn Cheese Factory in Seneca from his father. Of the seven cheese factories owned by George Byron Horton, three had two vats each and four had three vats each. Two of C. C. Colvin’s cheese factories had two vats each and one had three. According

²⁰³ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI. *Adrian Daily Telegram*, “Fruit Ridge” (March 1901). G. B. Horton has bought the Peebles cheese factory, one located on the Peebles farm and the other at Jasper. Bruen E. Peebles dies on June 25, 1901. *Adrian Daily Telegram* obituary for Bruen E. Peebles, June 25, 1901.

²⁰⁴ Steven K. Hamp, “From Farm to Factory: The Development of Equipment and Process in the American System of Cheese Manufacture.” Master’s thesis, University of Michigan, Ann Arbor, MI, 1978. p. 31.

to Bradley's inspection report, the condition of the county's cheese vats was generally good with several receiving a rating of first class. Those receiving a first class rating belonged to B. L. Peebles of Rollin, George Byron Horton's Canandaigua factory, S. S. Bade's Morenci Cheese Factory, and Baker and Jurden's Riverside Cheese Factory. At least three of the county's operations had purchased new vats in 1905; those belonged to C. C. Colvin's North Morenci factory, G. H. Rodrick's Maple Lawn factory and George Byron Horton's Fairfield Cheese Factory. Operating at full capacity, an establishment with two or three vats could process between four and six thousand pounds of raw milk per day.

Cheese factories of such capacities needed a ready supply of water that could be converted into steam. The majority of Lenawee County's cheese factories had dug wells in 1905, though seven of them had driven wells and three had either surface water or flowing springs. The average depth of the water table was about twenty-five feet, with a few driven wells going as deep as eighty feet. The depth of the water table was judged to be fairly consistent over the county as a whole. The average water temperature was between 55 and 60 degrees.²⁰⁵ Bradley apparently did not test the quality of water; he may not have had the time or the tools to do so. Today's water quality tests in the same area show high traces of lime, iron, and sulfur with farm chemical run-off.

The more automated the cheese factory, the less human power was needed to process the curd. It is unknown whether each of the Lenawee County cheese factories had more than one employee by 1905, since Bradley only lists the cheese makers in his

²⁰⁵ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

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inspection reports. How much energy and where it was utilized in the factory can be seen in the following passage:

“In addition to heating the vats, steam powered engines could also operate other pieces of factory equipment such as automatic curd stirrers or agitators attached to the vat. Curd mills were also converted to power; a pulley simply replaced the hand crank used to turn the peg cylinder in the bottom of the hopper. With the power mill came a new function for the curd sink. When the curd mill became a stationary and could not be moved to the vat or sink when required for use, the sink was moved to the mill for the grinding operation. Automatic stirrers or agitators, largely a development of the 1870s and 1880s, were also easily powered. The stirrer was normally a rake-shaped device or rod with many tings radiating off it at right angles. Powered by a belt, it was used to keep heated curd in motion during the cooking operation so it would not scorch or stick to the vat, With the majority of factories making cheese by the high acid, or acid-in-the-whey process called steeping, constant agitation was necessary or the curd would be heated unevenly or settle to the bottom of the vat.”²⁰⁶

Once the previous evening’s skimmed milk was added to the next morning’s new milk, the entire contents of the vat were brought to an average 86 degrees. It was at this point that the rennet was added. Seventeen of the cheese makers reported to Bradley that they were using commercially processed rennet. The remaining cheese makers did not report the use of such rennet. Those cheese makers using the commercially made rennet were adding about three to four ounces to each vat of heated milk.²⁰⁷

In 1878, Christian Hansen’s Laboratory in New York introduced commercially prepared rennet extracts. Using a conversion table included in the packet, an exact amount of rennet of known strength could be determined for use with a given quantity of milk. Commercial rennet ensured a much more even curding process and was less

²⁰⁶ Steven K. Hamp, “From Farm to Factory: The Development of Equipment and Process in the American System of Cheese Manufacture.” Master’s thesis, University of Michigan, Ann Arbor, MI, 1978, p. 31.

²⁰⁷ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

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cumbersome than making rennet in the traditional manner.²⁰⁸ Sixty or more years earlier, the farm wife making cheese on her stove would have used rennet derived from presoaking a dried piece of a calf's stomach lining.

Hansen's commercial rennet was available to home dairy operators and factory cheese makers through the Sears, Roebuck and Company catalogue. The 1897 edition sold Hansen's Rennet Extract in one gallon bottles for \$2 each, or rennet tablets in boxes of one hundred or two hundred at \$3.75 for number one grade or \$2 for number two grade. Household rennet sold for \$1.20 a dozen or \$.015 each. In addition, Hansen's sold commercial colorings for cheese and butter.

Both home and commercial dairy equipment of all kinds took up the better part of five pages in the 1897 Sears catalogue. Products in that year's catalogue included vats, which could hold up to six hundred gallons; Babcock Milk Test kits; coolers; hand tools of every make and model; standing cheese presses that could press up to four cheeses at one time; and milk and cream cans of every description.²⁰⁹ By 1908, the total advertising for both home and commercial dairy equipment took up barely a page.²¹⁰ This decrease in advertising space seems to be another indication that home dairy operations had given way to the commercial production of both cheese and butter.

Within an hour after the addition of the rennet, the curd began to form in the milk, at which point the temperature was brought up to an average of 102 degrees and the curds

²⁰⁸ Steven K. Hamp, "From Farm to Factory: The Development of Equipment and Process in the American System of Cheese Manufacture." Master's thesis, University of Michigan, Ann Arbor, MI, 1978, p. 87.

²⁰⁹ Fred L. Israel, *1897 Sears, Roebuck Catalogue* (New York: Chelsea House Publishers, 1993), p. 143-147.

²¹⁰ Fred L. Israel, *1897 Sears, Roebuck Catalogue* (New York: Chelsea House Publishers, 1993), p. 471.

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were cooked in the whey for about two hours.²¹¹ It was at this point that the eye of the experienced cheese maker took over in place of any formal or technical training. Some of the cheese makers finished the process by allowing the acids in the whey to begin to build on the surface of the curd, while other cheese makers preferred to drain the whey and then let the acid form on the curd. It appears from Bradley's reports that most of the cheese makers allowed the acids to start to build while the curds were still in the whey. In a process known as the granular system, the cheese maker stirred the curds in the whey, breaking them into finer and finer bits or granules, giving the acid a wider surface area on which to form. At least sixteen out of the twenty-six cheese makers reported to Bradley that they used the granular system to separate the curds from the whey.²¹²

Over time, cooking proved to be the most effective way to separate the whey from the curds, and at the same time enabled the cheese maker to deal with tainted milk. The cooking stage performed two functions that it had not done perfectly before: to give a more complete separation of whey and moisture from the curd, and to allow the development of a perceptible level of acidity, which in turn helped expel additional moisture from the curd during the rest of the operation. The longer the curd lay in the hot whey, the more acid was formed.

Of the four cheese makers trained at MAC, three were using the Marschall Rennet Test while one was not. The Marschall Rennet Test was developed at the Marschall Dairy Laboratories in Madison, Wisconsin, near the end of the nineteenth century, to test the amount of acid found on the cheese curd, mostly in the cheddar

²¹¹ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI. Temperatures varied from a high of 110 degrees to 96 degrees. This variance is directly related to the factory conditions and to the cheese maker's skill.

²¹² 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

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process. Using this test served to separate those who were interested in the science of making cheese from those cheese makers experienced enough to view cheese making as a craft. The exception was L. R. Connors, who worked for himself and had six years of experience; this may have been a factor in his not using the test. Of the remaining three cheese makers, two worked for C. C. Colvin and the third worked for Michael Dillon. Their employment for an owner other than themselves may have had something to do with the desire to market a more consistently made cheese.

Of the seven cheese factories owned by George Byron Horton, less than half were using the Marschall Rennet Test. Of those cheese makers using the test, one had fourteen years experience, one had ten years, and one had three years. Of those not using the test, one had twenty-two years experience, one had thirteen years, one had twelve years, and one had four years. This small bit of information illustrates the slowness with which the methods of “scientific agriculture” were accepted by both the makers and the market. Cheese making in 1905 was still more craft than science, even among the largest manufacturers in the county.

When enough acid, usually about a half-inch, had formed on the curd, salt was added. Most of the cheese makers cited in Bradley’s inspection report used an average of two and one-half pounds of salt per thousand pounds of milk.²¹³ Salt was then mixed into the curds and the pressing operation begun.

By 1905, the physical methods of pressing cheese curds were a far cry from the simple log and rock device that Lucina Perkins Horton had rigged up under her backyard fence some sixty years earlier. Even the wooden, vertical, single screw press of the early

²¹³ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI. Average from the receipts.

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nineteenth century was found to be both time- and space-consuming, especially when used under factory production methods. Enter the steel horizontal gang press. First patented in 1868 by M. B. Fraser of Steuben, New York, this device could press twelve or more cheeses against each other with one long screw on a horizontal platform. Through a series of patents over the next twenty-five years, the modern cheese press was born. When laid horizontally on the press, the hoops—now made of galvanized iron rather than wood—nested against each other so the bottom of one fit over the top of the next, removing the need for a follower; this method not only applied more pressure to the individual cheeses, but also took up less factory space. The Fraser gang press was a self-bandaging machine, a feature that simplified yet another laborious part of cheese production. Before self-bandaging, the cheese maker was required to sew flat sheets of cloth into cylindrical forms for the various sizes of cheese produced. In another labor-saving development, in 1876, E. V. Lapham of Morrison, Illinois, patented the seamless bandage. It was a cheesecloth tube, shaped like a hose, which could be cut off to any desired length from a roll.²¹⁴

Three of the twenty-six cheese factories that Bradley inspected in the spring of 1905 listed their cheese presses by the Fraser name. The rest reported using a “Steele gang press.” One factory, owned by George Byron Horton, listed its press as being a “single screw” type. Some of the presses were still made of wood or had wooden components. About half of the presses found in Horton’s factories were of these earlier wooden models. All of C. C. Colvin’s factories contained the Steele model gang presses.

²¹⁴ Steven K. Hamp, “From Farm to Factory: The Development of Equipment and Process in the American System of Cheese Manufacture.” Master’s thesis, University of Michigan, Ann Arbor, MI, 1978, p. 35-36.

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Five of the local cheese factories had at least two gang presses per operation.²¹⁵ All the factories were hooping the curds as part of the pressing process on a gang-style press. The more even pressure from that style press extracted more whey from the cheese as the curds compacted. Once the cheeses reached their full compaction, after about twenty-four hours, they were removed from the press and taken to the curing or drying room to age.

Unlike other styles of cheese, “Soft Michigan” was generally cured and sold in less than three months. While modern artisanal cheeses are often cured in underground caves or factory coolers where the air temperature is even at all times, there were no caves in Lenawee County’s four cheese-making townships to cure cheese, hence the need for a drying room. While modern cheeses are kept refrigerated through most of the manufacturing process, this was not the case at the turn of the twentieth century. The notion of curing promoted by dairy leaders of the mid-nineteenth century recommended a second story room or special curing house with well-ventilated, airy surroundings. The ideal temperature range was believed to be between 70 and 75 degrees.²¹⁶ Curing cheese at such a high temperature added flavor during the drying process.

According to Bradley’s 1905 inspection reports, Lenawee County’s cheese manufacturers used stove heat to keep the temperature of their curing rooms at an average temperature of 75 degrees.²¹⁷ The curing or drying rooms, ventilated only by windows, were usually located on the second story of the cheese factory or in a separate building

²¹⁵ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

²¹⁶ Steven K. Hamp, “From Farm to Factory: The Development of Equipment and Process in the American System of Cheese Manufacture.” Master’s thesis, University of Michigan, Ann Arbor, MI, 1978, p. 89.

²¹⁷ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

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nearby. The cheeses were placed on flat wooden shelves, held up by wooden brackets, extending from the walls.

By the turn of the twentieth century, science had proven conclusively that a cooler environment enhanced cheese quality. Although this discovery was made in 1897-1898 and was not implemented widely before 1900, it eventually did have an impact on cheese factory design. All of Lenawee County's cheese makers were still following the older method—high temperatures and open ventilation—in 1905. During the early decades of the twentieth century, cheese manufacturers became more concerned with keeping their cheese at cooler temperatures through all phases of its production. Michigan's Governor Fred M. Warner, who was also a cheese factory owner, experimented with refrigerated railroad boxcars for the transporting of his product during those early decades.

In 1889, scientists discovered that cheese could be coated with a paraffin spray that greatly reduced spoilage on the shelf. Prior to this development, whey butter, melted butter, or lard was used to coat curing cheeses, but such treatment did not preclude insect infestation or spoilage.²¹⁸ In 1905, Bradley asked all twenty-six cheese makers on his inspection route if they paraffined their cheeses; the answer was a resounding no.²¹⁹ "Soft Michigan" cheese did not cure long enough or was a hard enough cheese to require the makers to work toward a longer shelf life for their product. Once the cheeses had cured their requisite number of weeks, they were boxed and made ready for sale.

Several cheese box manufacturers were located in Lenawee County at the turn of the twentieth century, including ones owned by the White brothers of Fairfield Township

²¹⁸ Steven K. Hamp, "From Farm to Factory: The Development of Equipment and Process in the American System of Cheese Manufacture." Master's thesis, University of Michigan, Ann Arbor, MI, 1978, p. 89.

²¹⁹ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

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and Nixon and Holdridge of Adrian. The cheeses were packaged and each box was stenciled with the date of manufacture per state law. Each spring, the cheese factory owners or cheese makers registered their brand with the office of the Dairy and Food Commission, paying a small fee for each brand name. Some makers simply sold their cheese under the number the state assigned them for the year. Others, like George Byron Horton,²²⁰ sold their cheese under names like “Standards,” “Doubles,” or “Family Favorites,” but always designated “full cream.”²²¹

As the final step in the production process, cheeses were either sold directly by the owners or gathered up by a jobber who traveled through an area buying up cheeses in lots to sell in even bigger markets. “Soft Michigan” cheese was sold locally as well as in the larger metropolitan areas of Detroit, Chicago, and New York.

²²⁰ In 2005, while inspecting the remains of George Byron Horton’s Home Cheese Factory at Fruit Ridge, the author discovered that factory workers had left practice stencil marks and handwritten notes on the factory’s interior walls. Surprisingly, also recorded are the names of other local cheese factories, and area cheese buyers and owners, among them Martin P. Stockwell, as well as that of George Byron Horton himself.

²²¹ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

PART TWO:
GOVERNMENT, EDUCATION, SCIENCE, AND TECHNOLOGY
IN “SOFT MICHIGAN” CHEESE PRODUCTION

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Government Regulation of “Soft Michigan” Cheese Production

In March 1867, almost a year after the opening of Rufus Baker’s Fairfield Township cheese factory, Michigan’s legislative bodies began to write laws for the governance of commercial cheese factories. These new regulations, first built on existing laws governing Michigan’s mining industry in the 1850s, would expand to govern the product and the process of cheese making. As the nineteenth century drew to a close, whole bureaucracies would be formed around Michigan’s dairy industry, until mid-twentieth century state government would legislate the demise of most locally based commercial cheese factories.

The new legislation worked on two levels: first, to curtail and bring into uniformity a product—cheese—that was safe for public consumption; and second, to expand the bureaucracy of state government, creating new positions for everyone from commissioners, to analysts, to inspectors, to college faculty, all supported by revenue from the sale of licenses, processing fees, tuition fees, and fines for violations of the new laws.

All those involved with the commercial manufacture of cheese accepted this dichotomy of government curtailment and expansion, for the most part, primarily because they shared a basic ethos and position in society. As was mentioned earlier, Michigan’s commercial cheese producers were white, middle-class, Protestant “Yankees” who had a common Civil War experience and a late-nineteenth century Republican agenda.

By the end of America's Gilded Age, this shared Republican agenda had transformed itself into the historical movement known as Progressivism. Wrapped in the belief that the expansion of their world would bring about modernity, white middle-class Progressives looked to science, technology, and education to solve the world's problems. Among those problems were alcoholism, poverty, and poor sanitation, propagated by the urban immigrant poor and greed fostered by the rich, industrialist elite that blocked the middle-class—mostly rural agriculturists—rise to greater economic security. Progressives believed that the forces of both economics and morality were best held in check when government regulation was allowed to maintain a balance within the various sectors of society.

At first a local movement, Progressives gained power by electing state officials, and then national leaders. Once in power, they used their newfound positions of influence to grow government and then curtail by regulation those things that it governed, on the basis of what was perceived as the "common good" of the people. Science, technology, and education were the measuring sticks of government regulation.

As will be seen, Michigan's Progressive Republican agricultural leaders would work together to grow their power and influence in state government, first through the SBA, then through the Dairy and Food Commission. Their agenda would focus on preventing the adulteration of the food supply. While government policy focused on the adulteration of many products such as vinegar, soda, jelly, raw milk, butter, and patent medicines, the commercial manufacture of cheese would require special attention, particularly because those with power and influence played a leading role in the development of the commercialization process. In other words, what had become an idea

in 1866—the commercial cheese factory—was by century’s end a major part of Michigan’s and Lenawee County’s economic systems.

Michigan’s most influential Progressive Republican governor was Hazen S. Pingree. A Civil War veteran from Maine and a shoe manufacturer from Detroit, he began his political career as the city’s mayor in 1889. While mayor, Pingree fought Detroit’s utility and transportation monopolies and during the Panic of 1893, among other measures, allowed the city’s poor to use vacant land to grow food. He was elected governor of Michigan in 1897, and under his tutelage, the next generation of political leaders would continue to make Progressive reforms well into the twentieth century.

While the Progressive movement was universal in its quest to move the nation forward at the turn of the twentieth century, this dissertation examines only one small part of this agenda: the basic concern over the reliability of the food supply, primarily in the manufacture of cheese. The issue of a reliable food supply did not appear overnight, but actually centuries earlier when England established some of the earliest laws governing the food supply of its North American colonies.

One of the first national laws in the United States governing food and drug supplies came in 1848 with the passage of the Drug Importation Act.²²² At that time, it was feared that drugs—mostly patent medicines and home remedies purchased commercially or made by physicians during the Mexican War and given to soldiers—contained foreign materials, causing many to die.²²³ It was believed, by this bill’s supporters, that if “only authentic drugs entered the country, then American processors

²²² James Harvey Young, *Pure Food: Securing the Federal Food and Drugs Act of 1906* (Princeton, NJ: Princeton University Press, 1989), p. 3.

²²³ James Harvey Young, *Pure Food: Securing the Federal Food and Drugs Act of 1906* (Princeton, NJ: Princeton University Press, 1989), p. 6.

would not dare expand adulteration,” thus ensuring the safe commercial manufacture of drugs desperately needed by the military and the general public.²²⁴ It was with this legislation, the Drug Importation Act of 1848, that the national discussion over adulterated food and drugs began.

Robert Clark Kedzie and Public Health

Interrupted by the nation’s Civil War, the discussion of food and drug safety would not take center stage again until 1879, when the National Board of Public Health (NBPH) was established. Chaired by John Shaw Billings, the agency became more than a “mere quarantine-control body.” Under Billings’ leadership, the NBPH worked to establish the Library of the Surgeon-General and created plans for Johns Hopkins University.²²⁵ Members of the NBPH worked “to investigate a wide range of public health problems, giving small expense grants to scientists, and adulteration of foods and drugs were among the topics studied.” Several of the articles included in the NBPH’s first annual report were the “hurriedly prepared reviews of the literature on food adulteration by Robert Clark Kedzie, professor of chemistry at MAC and then President of the Michigan State Board of Public Health (MSBPH).”²²⁶

Michigan was a leader in the public health movement, establishing the MSBPH in 1873, due in part to the political and academic connections of Robert Clark Kedzie, son of William Kedzie, founder of Kedzie’s Grove, Deerfield Township, Lenawee County.

²²⁴ James Harvey Young, *Pure Food: Securing the Federal Food and Drugs Act of 1906* (Princeton, NJ: Princeton University Press, 1989), p. 13.

²²⁵ James Harvey Young, *Pure Food: Securing the Federal Food and Drugs Act of 1906* (Princeton, NJ: Princeton University Press, 1989), p. 53.

²²⁶ James Harvey Young, *Pure Food: Securing the Federal Food and Drugs Act of 1906* (Princeton, NJ: Princeton University Press, 1989), p. 53.

William Kedzie died at “the Grove” on August 5, 1828, leaving his wife with seven young children.²²⁷ Robert, then only about five years old, had been born in Delhi, New York in 1823, before the family moved west. Even without her husband by her side, Margaret Kedzie made every effort to see her children well started in life, sending four of them to Oberlin College in Ohio. Young Robert graduated from Oberlin College in 1847.²²⁸

Soon after graduation, Kedzie married Mary J. Knowlton, who died in childbirth in 1848.²²⁹ Outraged by the shortcomings of his wife’s medical care, Kedzie entered the newly formed medical school at the University of Michigan, graduating in the university’s first medical class in 1851. In May 1850, before completing his degree, he married Harriet Fairchild, whom he had met while a student at Oberlin College. After a brief stay in Kalamazoo, they moved to Vermontville, Michigan, where Kedzie began his medical practice in 1852. The couple had three sons, William K., Robert F., and Frank S., all of whom made chemistry their profession.²³⁰

Although nearly forty by the time the Civil War began, Kedzie joined the Twelfth Michigan Voluntary Infantry Regiment as an assistant surgeon. He was taken prisoner at the Battle of Shiloh (Pittsburg Landing). During his imprisonment, he was promoted to the rank of surgeon. Upon his release and return to his regiment in 1862, he resigned his

²²⁷ Clarence Suelter, *Robert Clark Kedzie Family History* (East Lansing, MI: Clarence Suelter, 1999), p. 2-4.

²²⁸ Clarence Suelter, *Robert Clark Kedzie Family History* (East Lansing, MI: Clarence Suelter, 1999), p. 5. Of the four children to graduate from Oberlin, two were sons and two were daughters.

²²⁹ Clarence Suelter, *Robert Clark Kedzie Family History* (East Lansing, MI: Clarence Suelter, 1999), p. 5.

²³⁰ William taught chemistry at the University of Kansas, Robert at the University of Mississippi, and Frank at MAC, where he also served as the college’s tenth president.

commission for health reasons. One year later, in 1863, he accepted a position as professor of chemistry at MAC, which he held until his death in 1902.²³¹

In 1867, Kedzie was elected to the State Legislature of Michigan, where he represented the northern half of Ingham County.²³² Using his legislative connections, he convinced his fellow members to appropriate twelve thousand dollars to MAC for a new state-of-the-art chemistry laboratory. Construction of the new facility began in 1871.²³³ As will be seen, Robert Clark Kedzie played an important role in the development of the cheese industry in Michigan.

From both his position as head of the new chemistry laboratory at MAC and his role in the state legislature, Kedzie began to champion the cause of public health in Michigan. Republican Governor John J. Bagley took note of those interests, appointing him to serve on the newly established MSBPH in 1873. After four years of service, Kedzie became the board's president, serving for a total of eight years.²³⁴ While a member of MSBPH, he was a pioneer and champion of many causes. Among them was the discovery that the green pigments found in household wallpapers caused arsenic poisoning; the realization that unlabeled bottles of medicine were a health hazard; and the policy that doors on public buildings should open out in case of fire.²³⁵ As a member of the faculty at MAC, Kedzie's greatest work was the establishment of the sugar beet

²³¹ Clarence Suelter, *Robert Clark Kedzie Family History* (East Lansing, MI: Clarence Suelter, 1999), p. 5.

²³² Clarence Suelter, *Robert Clark Kedzie Family History* (East Lansing, MI: Clarence Suelter, 1999), p. 5-6. Kedzie obituary, *Lansing State Journal*, Lansing, MI, November 8, 1902.

²³³ Clarence Suelter, *Robert Clark Kedzie Family History* (East Lansing, MI: Clarence Suelter, 1999), p. 10-11. An even more modern chemical laboratory was built on campus of then Michigan State College in 1928. Frank Kedzie then president of the college, dedicated the building North Kedzie Laboratory, in honor of his father.

²³⁴ Clarence Suelter, *Robert Clark Kedzie Family History* (East Lansing, MI: Clarence Suelter, 1999), p. 28.

²³⁵ Clarence Suelter, *Robert Clark Kedzie Family History* (East Lansing, MI: Clarence Suelter, 1999), p. 7-8.

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industry in Michigan. In 1876, he was instrumental in establishing the Farmer's Institutes held each year on the campus of what is now Michigan State University.

In 1885, the Michigan State Fair was held in Detroit.²³⁶ During the fair, a scandal was uncovered involving the judging of several manufactured fertilizer samples. Representatives of the second place entry challenged the judge's first place ruling. To help settle the matter, samples from both the first and second place winners were submitted to the chemistry department at MAC for analysis. What Kedzie and his chemistry department soon uncovered was the adulteration of a fertilizer product that was being sold under false marketing practices.²³⁷ This discovery would change how the people of Michigan would come to view all products bought and sold within the state. As head of the chemistry department at MAC, a former member of MSBPH, and a former state legislator, Kedzie had the opportunity and the influence to correct such fraudulent activities—and he did.

Kedzie would later apply these same concerns and scientific methods to the regulation of Michigan's kerosene industry. He worked to establish inspection laws for the manufacture of oil-based products and tests to ensure that they were safe for home use.²³⁸ As a result of his labors, the general public began to understand the need for the inspection of various food and drug products manufactured both in and outside the state. Michigan would become a national leader in the field of public health.

²³⁶ Clarence Suelter, *Robert Clark Kedzie Family History* (East Lansing, MI: Clarence Suelter, 1999), p. 7-8.

²³⁷ Clarence Suelter, *Robert Clark Kedzie Family History* (East Lansing, MI: Clarence Suelter, 1999), p. 9.

²³⁸ Clarence Suelter, *Robert Clark Kedzie Family History* (East Lansing, MI: Clarence Suelter, 1999), p. 9. These studies soon led Kedzie to develop the Michigan State Board of Health Oil Tester that was adopted by the State of Michigan.

To understand the climate in which Michigan's Dairy and Food Commission was created in 1893, one need only look at the amount of adulterated products estimated by the United States Department of Agriculture (USDA) to be on the market at the turn of the twentieth century. According to the USDA, during the mid-1890s alone, nearly fifteen percent of the total amount of the articles consumed nationally, worth \$1,014,000,000, was contaminated to some degree.²³⁹ Michigan's proportion of the national population was approximately one-thirtieth, or \$33,800,000 in business lost to adulterated products alone.²⁴⁰ If the amount of drugs—not included under Michigan's new laws—were removed from the equation, Michigan's Dairy and Food Commissioner estimated that the people of Michigan paid more than \$22,000,000 every year for adulterated goods. The USDA's estimates were even more sobering; the department believed that nearly two percent of the yearly total (or \$400,000) was actually found to be poisonous.

While Michigan would lead the way in establishing legislation related to contaminated products, the issue was of national concern. Several states, especially in the south and east, were having their own problems with adulterated fertilizer products. It was from the national need to regulate the fertilizer industry that many of the laws governing the adulteration of all products would develop. Some states settled the issue by mandating that manufacturers affix tags to their merchandise stating the content by percentage of materials, then fining manufacturers who deviated from the published list. Other states had manufacturers post a bond against their published list of product

²³⁹ *Report of the Dairy and Food Commissioner of the State of Michigan, July 1, 1895 to June 30, 1896* (Lansing, MI: Robert Smith Printing Co., 1896), p. 7.

²⁴⁰ *Report of the Dairy and Food Commissioner of the State of Michigan, July 1, 1895 to June 30, 1896* (Lansing, MI: Robert Smith Printing Co., 1896), p. 7.

ingredients to guarantee their honesty. But at least one state—Michigan—created an official position within state government of state chemist or assayer. Michigan required the fertilizer manufacturers to pay a licensing fee for support of the system and authorized the state chemist (Kedzie) either to collect or to be furnished with samples of each fertilizer sold in the state, run the appropriate analyses, and record his test results on the labels. Anyone found substituting an adulterated product for one analyzed would then be liable for criminal prosecution.²⁴¹

Michigan's Dairy and Food Commission

It is within this context that the Michigan legislature created the office of the Dairy and Food Commissioner in 1893.²⁴² Subsequent public acts or laws continued to define and redefine the commission's role well into the twentieth century. In the year the legislation took effect, the duties of the commissioner were described as: "to carefully enquire into the quality of the dairy and food and drink products and the several articles which are the necessary constituents of food which are offered for sale in this State. He is required to make an annual report to the Governor, which shall include the doings of this office for the preceding year."²⁴³ The first commissioner's salary was twelve hundred

²⁴¹ Alan I. Marcus, *Agricultural Science and the Quest for Legitimacy* (Ames, IA: Iowa State University Press, The Henry A. Wallace Series on Agricultural History and Rural Studies, 1985), p. 43.

²⁴² *Public Acts and Joint and Concurrent Resolutions of The Legislature of the State of Michigan Passed at the Regular Session of 1893* (Lansing, MI: Robert Smith and Co., 1893), p. 421.

²⁴³ Washington Gardner, *Official Directory and Legislative Manual of the State of Michigan for the Years 1895-1896* (Lansing, MI: Robert Smith and Co., 1896), p. 617.

dollars annually.²⁴⁴ To give this pay rate some perspective, the state librarian, Mary C. Spencer, received a similar salary in 1897.²⁴⁵

The Dairy and Food Commissioner was to be appointed by the governor.²⁴⁶ Several names were put forward for the office: E. L. Lockwood of Monroe; Chas. F. Moore of St. Clair; Geo. B. Horton of Lenawee; and Charles E. Storrs of North Muskegon.²⁴⁷ According to letters found in the Archives of Michigan, there was some “heated debate” over who should be the first Dairy and Food Commissioner. Republican Governor John T. Rich finally settled on Charles E. Storrs of North Muskegon, also a Republican.²⁴⁸

E. A. Stowe, editor of two statewide trade publications (one of which was the *Michigan Tradesman*, circulation fifteen thousand copies) angrily denounced the appointment of Storrs. In a letter to Governor Rich, Stowe blasted Storrs:

“so far as my knowledge of him goes,” wrote Stowe, “(he) is neither a dead-beat, embezzler nor forger, but he is in no respect qualified to discharge the duties of the position, and his appointment would make the office the laughing stock of the commercial interests of the State and subject you (Governor Rich) to the fierce critics of the wholesale and retail grocers’ organizations, the Michigan Dairymen’s Association and others

²⁴⁴ *Public Acts and Joint and Concurrent Resolutions of The Legislature of the State of Michigan Passed at the Regular Session of 1893* (Lansing, MI: Robert Smith and Co., 1893), p. 421.

²⁴⁵ Washington Gardner, *Official Directory and Legislative Manual of the State of Michigan for the Years 1897-1898* (Lansing, MI: Robert Smith and Co., 1898), p. 682. Mary C. Spencer was well respected within the ranks of Republican Party politics. She is the only woman pictured in the party’s fiftieth anniversary commemoration materials. William Stocking, *Under the Oaks: Commemorating the Fiftieth Anniversary of the Founding of the Republican Party, At Jackson, Michigan* (Detroit, MI: Detroit Tribune Publishing, 1904).

²⁴⁶ *Public Acts and Joint and Concurrent Resolutions of The Legislature of the State of Michigan Passed at the Regular Session of 1893* (Lansing, MI: Robert Smith and Co., 1893), p. 421.

²⁴⁷ Letter to the Honorable John T. Rich, Governor of Michigan from E. A. Stowe, *The Michigan Tradesman*, June 28, 1893. RG 44, B55, F1 and F2. Appointments, State Offices, Boards and Commissions, Dairy and Food Commissioners. Archives of Michigan, Lansing, Michigan.

²⁴⁸ Washington Gardner, *Official Directory and Legislative Manual of the State of Michigan for the Years 1895-96* (Lansing, MI: Robert Smith and Co., 1896), p. 603. Letter to the Honorable John T. Rich, Governor of Michigan, from E. A. Stowe, *The Michigan Tradesman*, June 24, 1893. RG 44, B55, F1 and F2. Appointments, State Offices, Boards and Commissions, Dairy and Food Commissioners. Archives of Michigan, Lansing, Michigan.

who have been instrumental in creating the sentiment which resulted in the inauguration of the office. Such an office ought not to be farmed out to pay political debts or obligations, but bestowed upon the most worthy and competent person to be found, irrespective of location.”²⁴⁹

Storrs’ biography in the *Portrait and Biographical Record of Muskegon and Ottawa Counties Michigan, 1893*, listed him as having fought in the Civil War, attaining the rank of major, with interests in lumber and vineyards in the greater Muskegon County area.²⁵⁰ The *Michigan State Gazetteer* for the year 1889 lists Storrs as both a reverend and a justice.²⁵¹ However, considering the prominence and influence of Lenawee County dairyman and cheese manufacturer George Byron Horton, it is no wonder there were some objections as to Storrs’ qualifications over Horton’s for this office.²⁵²

As the new Dairy and Food Commissioner, Storrs was required to take an oath of office to be placed on file with Michigan’s secretary of state. In addition, Storrs placed on file a bond of ten thousand dollars against the “faithful performance of his duties.”²⁵³ Storrs’ term was for two years. Elliot O. Grosvenor of Monroe replaced Storrs at the end of his term. Grosvenor was a lawyer by trade and the son of one of Monroe, Michigan’s leading citizens and Civil War veterans, Ira Grosvenor.²⁵⁴

²⁴⁹ Letter to the Honorable John T. Rich, Governor of Michigan, from E. A. Stowe, *The Michigan Tradesman*, June 24, 1893. RG 44, B55, F1 and F2. Appointments, State Offices, Boards and Commissions, Dairy and Food Commissioners. Archives of Michigan, Lansing, Michigan.

²⁵⁰ *Portrait and Biographical Record of Muskegon and Ottawa Counties, Michigan* (Chicago: Biographical Publishing Company, 1893), pp. 569-570.

²⁵¹ R. L. Polk and Co., *Michigan State Gazetteer and Business Directory* (Detroit, MI: R. L. Polk and Co., 1889), p. 1492.

²⁵² Letter to the Honorable John T. Rich, Governor of Michigan, from E. A. Stowe, *The Michigan Tradesman*, June 24, 1893. RG 44, B55, F1 and F2. Appointments, State Offices, Boards and Commissions, Dairy and Food Commissioners. Archives of Michigan, Lansing, Michigan. George Byron Horton was forty-eight at the time he was nominated for the position of Dairy and Food Commissioner.

²⁵³ *Public Acts and Joint and Concurrent Resolutions of The Legislature of the State of Michigan Passed at the Regular Session of 1893* (Lansing, MI: Robert Smith and Co., 1893), pp. 421-422.

²⁵⁴ Talcott E. Wing, *History of Monroe County Michigan, Illustrated* (New York: Munsell and Co., 1890), p. 454.

During his tenure, Storrs oversaw the publication of the first issues of both the commission's report to the governor and the first monthly *Bulletins* that reported the commission's work not only to the legislature but also to the people of Michigan.²⁵⁵ In his first report to Governor Rich, Storrs stated that if the laws of the commission were fully enforced, "they would work radical changes in the character of the food products sold in the State and inevitably entail a loss to a certain extent to dealers in those products, and it was only fair that they should have the fullest information possible furnished to them."²⁵⁶

To that end, Storrs ordered five thousand copies of the department's first monthly *Bulletin*, which contained a synopsis of the new legislation. Three thousand of those copies were made at the request of the Michigan Wholesale Grocers' Association to send to their secretary in Detroit, who would distribute them to the membership. An additional three thousand copies were printed when the supply ran low.²⁵⁷ The distribution of copies of the new legislation had an immediate impact on the dairy and food producers of the state. As Storrs reported to the governor in 1896, "Compliance with the law has in almost every instance been prompt and cheerful. Another effect had been that, instead of the antagonism that would naturally have been aroused by an indiscriminate resort to coercive measures, a feeling of satisfaction with the law and the effects produced by it, has been the result."²⁵⁸

²⁵⁵ The Commission's report to the governor was mandated by law, Public Act No. 193 of 1895.

²⁵⁶ *Report of the Dairy and Food Commissioner of the State of Michigan, July 1, 1895 to June 30, 1896* (Lansing, MI: Robert Smith Printing Co., 1896), p. 1.

²⁵⁷ *Report of the Dairy and Food Commissioner of the State of Michigan, July 1, 1895 to June 30, 1896* (Lansing, MI: Robert Smith Printing Co., 1896), pp. 5-6.

²⁵⁸ *Report of the Dairy and Food Commissioner of the State of Michigan, July 1, 1895 to June 30, 1896* (Lansing, MI: Robert Smith Printing Co., 1896), p. 6.

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The 1893 Dairy and Food Commission legislation allowed for the appointment of a state analyst who, according to the Public Acts of Michigan, would be a professor of chemistry at MAC. With a public much more aware of the adulteration of foods and a reputation for responding to such concerns preceding him, it is no great surprise that Robert Clark Kedzie (with the backing of MAC) was appointed Michigan's first Dairy and Food Commission analyst in 1893.

Since Kedzie was already an employee of the state by virtue of his position at the college, he received no additional salary. The Michigan legislature did, however, reimburse the chemistry department at MAC for supplies, though only one thousand dollars was allotted for any calendar year.²⁵⁹

In 1895, two short years after the inception of the Dairy and Food Commission, its work had greatly increased. While the salary for the commissioner did not increase, several other significant changes were made in the legislation that affected the department. First, the office of state analyst was moved out of the purview of the MAC. This may have had something to do with Kedzie's age; at that time, he was seventy-two and living in semi-retirement on the campus.²⁶⁰ The 1895 legislative amendment created a governmental position to be known as "practical analytical chemist." The legislation also provided for a laboratory, chemical supplies, and an office with furnishings, the cost

²⁵⁹ *Public Acts and Joint and Concurrent Resolutions of The Legislature of the State of Michigan Passed at the Regular Session of 1893* (Lansing, MI: Robert Smith and Co., 1893), pp.421-422.

²⁶⁰ *Thirty-First Annual Report of the Secretary of the State Board of Health of the State of Michigan for the Fiscal Year Ending June 30, 1903* (Lansing, MI: Robert Smith Printing Co., 1904), pp. xv-xvii. Robert Clark Kedzie died at home on his beloved campus of the Michigan Agricultural College, East Lansing, on November 7, 1902. The State Board of Health met several days later to compose a resolution regarding that event. In their remarks, members praised Kedzie in the following manner: "Resolved, That in our opinion, the people of this State and nation and of the entire world, owe a debt of lasting gratitude to the memory of this great man for the most useful part which he took in the inauguration and advancement of concerted systematic public effort for that greatest public good, the eradication of unnecessary disease, the banishment of untimely and needless death and the up building of a robust public health and consequent happiness and welfare." Throngs of people attended Kedzie's memorial service. He was laid to rest in Mount Hope Cemetery, Lansing, Michigan, next to his second wife.

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of which was not to exceed fifteen hundred dollars per year. The salary of the state analyst was set at twelve hundred dollars per year.²⁶¹ The first to hold this post was William L. Rossman, an assistant at the experiment station at MAC.²⁶²

Rossman received a resounding endorsement from Kedzie, who wrote Governor Rich, “(Rossman) is better qualified for the position than any man I know, is exceeding trustworthy and is a good Republican.”²⁶³ George W. Jenks of J. Jenks and Company, Merchant Millers and Grain Dealers, Sand Beach, Michigan wrote Governor Rich, “(Rossman) is a man of character and ability. He has done considerable work for us in chemical analysis and it has always been satisfactory. I believe him to be competent and trustworthy and hope that you may see fit to give him the position.”²⁶⁴

Rossman faced a mountain of work upon entering office. Not only was he responsible for managing and equipping the state’s new chemical laboratory, but the publishing of the Dairy and Food Commission’s monthly *Bulletin* was essential in curtailing the sale of adulterated dairy and food products in the state. Each month the *Bulletin* informed its readers of the laboratory’s product analysis and research activities. It became a bible for wholesalers as they purchased goods made both inside and outside the state. “The *Bulletins* give to the dealer information as to the articles found impure, furnishing him a guide as to what goods to reject in his purchases. Dealers will not buy

²⁶¹ *Public Acts of The Legislature of the State of Michigan, Passed at the Regular Session of 1895* (Lansing, MI: Robert Smith and Co., 1895), p. 538-541.

²⁶² *Report of the Dairy and Food Commissioner of the State of Michigan, July 1, 1895 to June 30, 1896* (Lansing, MI: Robert Smith Printing Co., 1896), p. 5. Letter to the Honorable John T. Rich, Governor of Michigan, from George W. Jenks, June 3, 1895. RG 44, B55, F1 and F2. Appointments, State Offices, Boards and Commissions, Dairy and Food Commissioners. Archives of Michigan, Lansing, Michigan.

²⁶³ Letter to the Honorable John T. Rich, Governor of Michigan, from Robert Clark Kedzie, May 29, 1895. RG 44, B55, F1 and F2. Appointments, State Offices, Boards and Commissions, Dairy and Food Commissioners. Archives of Michigan, Lansing, Michigan.

²⁶⁴ Letter to the Honorable John T. Rich, Governor of Michigan, from George W. Jenks, June 3, 1895. RG 44, B55, F1 and F2. Appointments, State Offices, Boards and Commissions, Dairy and Food Commissioners. Archives of Michigan, Lansing, Michigan.

goods shown by chemical analysis to be adulterated,” wrote Commissioner Storrs in his first report to the governor in 1896.²⁶⁵

Secondly, the 1895 legislation created for the first time the position of Dairy and Food inspector.

“The Commissioner was to appoint inspectors who shall take and subscribe the constitutional oath of the office and file the same in the office of the Secretary of State and who shall hold office during the pleasure of the Commissioner. Such inspectors shall have the same right of access to places to be inspected as the said Commissioner or his deputy. Such inspectors shall receive as compensation for their services not to exceed the sum of three dollars per day and their necessary expenses when so employed.”²⁶⁶

The authority of the commission and its inspectors was also given teeth in this legislation. Anyone trying to interfere with the work of the inspectors could be found guilty of a misdemeanor, and on conviction could be punished by a fine of not less than ten dollars nor more than one hundred dollars, or by imprisonment in the county jail for not less than ten days nor more than ninety days, or both, such fine and imprisonment at the discretion of the court.²⁶⁷

Each inspector was given power to act on behalf of the Dairy and Food commissioner, which meant that the inspectors could take samples of products from any location, box, bin, bag, bottle, or source. The inspectors could enter any building or structure where food or drink was being manufactured and could take samples of said products, as long as there was a witness; a written statement was given for the purpose of taking the sample and the manufacturer was duly paid for the sample. The inspectors then

²⁶⁵ *Report of the Dairy and Food Commissioner of the State of Michigan, July 1, 1895 to June 30, 1896* (Lansing, MI: Robert Smith Printing Co., 1896), pp. 10-11.

²⁶⁶ *Public Acts of The Legislature of the State of Michigan, Passed at the Regular Session of 1895* (Lansing, MI: Robert Smith and Co., 1895), p. 538-541.

²⁶⁷ *Public Acts of The Legislature of the State of Michigan, Passed at the Regular Session of 1895* (Lansing, MI: Robert Smith and Co., 1895), pp. 538-541.

turned their samples over to the state analyst for examination. If the sample was contaminated or found to be at fault, the prosecuting attorney in the county from which the sample was taken could then take legal action against the manufacturer.

All the inspectors served at the behest of the Dairy and Food commissioner, who himself was a political appointee. In the days before the creation of the State Civil Service Commission or the Office of the State Employer, the inspectors were considered “at-will employees” subject to the political appointment of the Dairy and Food commissioner and the governor.²⁶⁸ This meant that each time the party in power changed, all those currently in office resigned their appointments and waited to see if they would be reappointed. Turnover was low as Michigan’s Republicans remained in power through much of the early twentieth century.

An example of such political action was summed up in a 1907 letter from Michigan Republican Governor Fred M. Warner to the president of the Michigan Senate. In the letter, Warner pushes his desire that Arthur C. Bird be reappointed Dairy and Food Commissioner:

“It has come to me through the state press and other sources that there was objection raised to the confirmation of this appointment by some on the ground that Mr. Bird was responsible for the statement given out by me during the late senatorial contest. I alone was responsible for that statement and believed it my duty to take the position I did and I am ready and willing to define my course at any time the Legislature desires to take action.” Warner continued, “I know you realize, as I do, that all appointments desired cannot be made, not because they would not be commendable, but on account of there being so many good men for the positions to be filled. I know we all wish an administration of public

²⁶⁸ William Brownrigg, *First Annual Report of the Michigan State Civil Service Department to the State Civil Service Commission* (Lansing, MI: Civil Service Dept., 1938), pp. 1-5. Michigan did not have an established Civil Service until 1938.

affairs which will promote the best interest of all the people and because of this make stronger the political party to which we all belong.”²⁶⁹

Dairy and Food Commission inspector John Bennett made note in his report to Commissioner Storrs in June 1896 that it was the opinion of the jobbers and manufacturers with which he worked that “the department should be kept free from politics and placed more upon the basis of civil service.”²⁷⁰ However, inspectors would not be considered classified employees for another fifty years.

The first Dairy and Food Commission inspectors employed by the state of Michigan were John R. Bennett, John I. Breck, and William B. Scattergood, with Samuel F. Cook given a temporary appointment to cover the work in the Upper Peninsula.²⁷¹ In his year-end report, Commissioner Storrs acknowledged that while “present appropriation is adequate for the purposes (of the department), with the exception that it does not allow the employment of a sufficient number of Inspectors to do the work that should be done; there being ample work for two or three more, beyond the three already permanently employed.”²⁷²

The work of even the limited number of inspectors employed by the state in 1895-1896 had an almost immediate effect on Michigan’s food supply. Dairy and Food Commission inspector John I. Breck reported to Commissioner Storrs that, “Even a casual observer could not fail to notice the great improvements in the quality of articles of food in the past ten months. This has been at least ninety percent at a conservative

²⁶⁹ George N. Fuller, *Messages of the Governors of Michigan Volume IV* (Lansing, MI: The Michigan Historical Commission, 1927), pp. 459-460.

²⁷⁰ *Report of the Dairy and Food Commissioner of the State of Michigan, July 1, 1895 to June 30, 1896* (Lansing, MI: Robert Smith Printing Co., 1896), p. 13.

²⁷¹ *Report of the Dairy and Food Commissioner of the State of Michigan, July 1, 1895 to June 30, 1896* (Lansing, MI: Robert Smith Printing Co., 1896), p. 5.

²⁷² *Report of the Dairy and Food Commissioner of the State of Michigan, July 1, 1895 to June 30, 1896* (Lansing, MI: Robert Smith Printing Co., 1896), p. 11.

estimate.”²⁷³ “There are to my mind two primary causes for this,” wrote Breck. “First, the innate honesty of most dealers themselves; Second, the fear that they will be adversely advertised in the monthly *Bulletins* if prohibited articles are found in their stocks.”

It is unknown how much training, if any, these inspectors received to carry out their duties, or how much experience they had in this line of work. By 1906, great efforts were being made, as Commissioner Arthur C. Bird reported to the governor the commission “endeavors to furnish men as inspectors and instructors who are thoroughly practical, and who are qualified to instruct in all the details of the operation of creameries and cheese factories and the every day management of farm dairies.”²⁷⁴ One has only to read the reports of the first four Dairy and Food Commission inspectors to comprehend the scope of the work before them. Between the four men, almost 2,400 inspections were made in the first year of their employment.²⁷⁵ Averaging nearly three inspections a day, these men traveled the state of Michigan from one corner to another. In a day and age when the fastest means of transportation were a train or a horse and buggy, this was quite an accomplishment.

At first these men inspected the wholesalers and retailers of dairy and food products, alerting them to the new state laws and providing training institutes to help in educating them on the demands and penalties of the laws. Outlining the scope of his work to his employers, Dairy and Food Commission inspector W. B. Scattergood noted in his report to Commissioner Storrs that he had “visited wholesale druggists, wholesale

²⁷³ *Report of the Dairy and Food Commissioner of the State of Michigan, July 1, 1895 to June 30, 1896* (Lansing, MI: Robert Smith Printing Co., 1896), p. 15.

²⁷⁴ *Twelfth Annual Report of the Dairy and Food Commissioner of the State of Michigan, Year Ending June 30, 1905* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1905), p. 19.

²⁷⁵ *Report of the Dairy and Food Commissioner of the State of Michigan, July 1, 1895 to June 30, 1896* (Lansing, MI: Robert Smith Printing Co., 1896), pp. 13-17. Total number of inspections rounded up in the four reports.

grocers, wholesale liquor dealers, spice manufacturers, breweries and bottling works, retail druggists and grocers, confectioners, manufacturers of extracts, jellies, syrups, vinegar and any line of business affected by the Pure Food Laws.”²⁷⁶

While no mention is made of dairy inspections in the general report to the governor, Commissioner Storrs did not forget his duty to the dairymen of Michigan. In July 1896, Storrs assigned regular department inspector John I. Breck and temporary inspector E. A. Haven to look into the conditions of the state’s dairy industry.²⁷⁷ Haven’s report to the commissioner appears in the December issue of the *Bulletin*. In it, he wrote, “The object in taking up factory inspections was chiefly to learn their condition and needs, and find the method by which the Dairy and Food Commissioner could be of the greatest assistance in elevating the standard of Michigan dairy products.” Haven continued, “[it] gave an opportunity to do a little missionary labor and show the factory men that the State had not forgotten them. The Michigan dairy industry today needs care, thought, energy and good judgment.”²⁷⁸

Starting in July and over the next three months, Haven and Breck inspected fifty-five cheese factories and sixty-two creameries. Haven alone visited eleven counties in southern Michigan during those first three months. These inspections showed the sheer volume of people, animals, and financial resources already involved by 1896 in the production of cheese in the state of Michigan. This production, which on the surface

²⁷⁶ *Report of the Dairy and Food Commissioner of the State of Michigan, July 1, 1895 to June 30, 1896* (Lansing, MI: Robert Smith Printing Co., 1896), p. 14-15.

²⁷⁷ *State of Michigan, Dairy and Food Commission, Bulletin No. 16, December 1896*. (Lansing, MI: Robert Smith and Co., 1896), p. 7.

²⁷⁸ *State of Michigan, Dairy and Food Commission, Bulletin No. 16, December 1896*. (Lansing, MI: Robert Smith and Co., 1896), p. 8.

appeared to be localized and somewhat isolated, was in reality a network of 2,314 patrons and 10,390 cows producing 203,000 gallons of milk daily statewide.²⁷⁹

The legislation related to the Dairy and Food Commission was amended again in 1897. Several significant changes were made to the law, such as giving the commission an annual budget of eighteen thousand dollars, which included furnishings for both an office in Lansing and a fully equipped laboratory.²⁸⁰ The commissioner's salary remained the same, as did the state analyst's, but the number of inspectors was set at a maximum of six for the first time. The inspectors' salary remained at three dollars a day with expenses,²⁸¹ and the power and authority given each inspector remained the same. In his year-end report, Dairy and Food Commissioner Elliot O. Grosvenor noted:

“The year's work established very clearly that six inspectors cannot fairly handle the whole State. The dairy interests represented by the butter and cheese factories are entitled to at least a semi-annual inspection. The department is unable in its present circumstances to do this work. In other states more money is spent in a single year along this line of work than the Michigan Dairy and Food Commission is allowed for its whole duty.”²⁸²

Real change to the office of the Dairy and Food Commission came in 1901 when its budget was substantially increased, not only to cover daily operations, but also to cover a shortfall of fifteen hundred dollars from the previous year's budget. The commission's annual budget was now twenty-five thousand dollars. This increase took into account that the department's work had increased, and it meant raises for the commission's officers. Though the salaries of the six inspectors remained the same, the

²⁷⁹ *State of Michigan, Dairy and Food Commission, Bulletin No. 16, December 1896.* (Lansing, MI: Robert Smith and Co., 1896), p. 7-8.

²⁸⁰ *State of Michigan, Dairy and Food Commission, Bulletin No. 16, December 1896.* (Lansing, MI: Robert Smith and Co., 1896), p. 7-8.

²⁸¹ *Public Acts of The Legislature of the State of Michigan, Passed at the Regular Session of 1897* (Lansing, MI: Robert Smith and Co., 1897), pp. 188-191.

²⁸² *Fifth Annual Report of the Dairy and Food Commissioner of the State of Michigan, Year Ending June 30, 1898* (Lansing, MI: Robert Smith Printing Co., 1898), p. 8.

commissioner now received two thousand dollars annually. His deputy received fifteen hundred dollars annually, as did the state analyst. Five hundred dollars was also allowed for chemicals in addition to those monies already appropriated for them.²⁸³

Legislation regarding the office of the Dairy and Food Commission was again amended in 1903. Salaries and responsibilities related to the office did not change, and the department's budget remained at twenty-five thousand dollars annually.²⁸⁴

In 1905, the configuration of the Dairy and Food Commission changed once more, indicative of the expansion of the dairy industry in the state. The commercial manufacturing of cheese was on the rise and a Pure Food and Drug Act (1906) was about to be passed on the national level. Public awareness of health issues related to food was continuing to heighten. The Public Acts related to the Dairy and Food Commission of 1905 did several things.

First, the department was expanded to include eight inspectors rather than six.²⁸⁵ Instead of being paid three dollars a day plus expenses, the inspectors now were to receive one thousand dollars annually. The names of the eight inspectors working for the commission in 1905 are recorded as Dame, Schnitzer, Whipple, Rabild, Shellenberger, Dear, Schultz, and Hutchinson, who served as the apiary inspector.²⁸⁶

Second, the position of special inspector was created. While the number of these inspectors was not indicated in the legislation, their combined salaries were not to exceed six thousand dollars annually, with a daily pay of three dollars plus expenses. When

²⁸³ *Public Acts of The Legislature of the State of Michigan, Passed at the Regular Session of 1901* (Lansing, MI: Robert Smith and Co., 1901), pp. 261-264.

²⁸⁴ *Public Acts of The Legislature of the State of Michigan, Passed at the Regular Session of 1903* (Lansing, MI: Robert Smith and Co., 1903).

²⁸⁵ *Public Acts of The Legislature of the State of Michigan, Passed at the Regular Session of 1905* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1905), pp. 14-22.

²⁸⁶ *Twelfth Annual Report of the Dairy and Food Commissioner of the State of Michigan, Year Ending June 30, 1905* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1905), p. 3.

submitting their oaths of office, all the inspectors were to provide a bond of five thousand dollars, which was filed with the secretary of state. The subsidies for these bonds were at the discretion of the Dairy and Food commissioner. And third, the Department's budget increased to thirty-five thousand dollars annually.²⁸⁷

Fourth, the 1905 legislation created a state registry of all "skimming station, creamery, cheese factory, condensed milk factory or milk depot . . . to which the milk or cream from three or more persons is received." Each owner of the same was to register with the Dairy and Food Commissioner on or before April 1 of each calendar year, submitting on the blank forms provided by the department the following information: the amount of milk or cream received by each plant for the preceding year ending December 31; the names and postal addresses of each patron of the same; current address of the processing plant; and owner information. A five-dollar fee was to be submitted with each application. At registration, if an owner wished to sell his cheese under a particular brand name—such as "Doubles" or "Family Favorite"—the name was given; however, if no additional name was provided, the owner then sold his cheese under his registration number, such as "State No. 64." Owners wishing to sell their cheese as "Full Cream" and label the box as such were required to submit an additional dollar.²⁸⁸ The registry provided a platform from which biannual inspections were made, pinpointing the locations of each cheese factory in the state.

Lastly, the 1905 legislation provided a grading system for the inspections. Those factory owners receiving poor marks, especially for sanitary conditions, were first

²⁸⁷ *Public Acts of The Legislature of the State of Michigan, Passed at the Regular Session of 1905* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1905), pp. 14-22.

²⁸⁸ William K. Williams, *Michigan Farm Laws with Business Forms and Model Business Letters* (Columbus, OH: The Rural Publishing Company), pp. 48-50.

notified and then warned. Those not complying were charged with a misdemeanor and, if convicted, fines ranged from twenty-five dollars to three hundred dollars depending on the number of offenses. If convicted, factory owners faced the cost of prosecution or imprisonment in the county jail not to exceed ninety days or until the fine was paid.²⁸⁹ Under these new mandates, Lenawee County's cheese factories fell into compliance.

Well-pleased with the Dairy and Food Commission's progress, Michigan's Republican Governor Fred M. Warner, in his second inaugural address to the legislature in 1907, remarked:

"From carefully gathered statistics it is evident that the production of creamery butter in this state, during the past year, has exceeded thirty-five million pounds, and that the production of cheese has exceeded fifteen million pounds. These amounts show an increase of nearly twenty-five percent during the past two years, or nearly two million dollars annually. While there are certainly some other contributing causes for this increased production, yet I believe that the dairy meetings, inspection work and the general interest aroused by the operation of the new dairy law, have done their full share in bring about these results." Warner continued, "In consequence of this, the number of creameries and cheese factories have greatly increased and the farmers of the state are realizing a much greater amount from this important industry."²⁹⁰

In a little more than twelve years, the office of the Dairy and Food Commission had undergone dramatic changes. From an office of two or three people working closely with MAC, it had grown to an independent office and laboratory employing nearly twenty people with an annual budget of thirty-five thousand dollars. Keeping eight inspectors busy was an easy task as the number of cheese factories in Lenawee County alone had nearly tripled by 1905. These eight inspectors were responsible for all the food

²⁸⁹ William K. Williams, *Michigan Farm Laws with Business Forms and Model Business Letters* (Columbus, OH: The Rural Publishing Company), pp. 48-50.

²⁹⁰ Fred M. Warner, *Inaugural Message of Governor Fred M. Warner to the Forty-Fourth Legislature of Michigan, January 3, 1907* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1907), pp. 10-11.

and drink produced in the state of Michigan, not merely the inspection of cheese factories. They were also responsible for the quality of butter, vinegar, baking soda, and any number of other items that were consumed by the people of Michigan.²⁹¹

Factory Inspection

Currently, three volumes of the Michigan Dairy and Food Commission Inspector Reports (1905-1906) survive in the Archives of Michigan. Each volume contains the original handwritten forms used by the inspectors to record their inspections of each cheese factory in the state of Michigan. Highly detailed, these documents give a small glimpse into the workings of the department, the views of the inspectors and, even more profoundly, a description of each cheese factory, the experience of the cheese maker, the number of patrons and owners, and the procedure for creating “Soft Michigan” cheese.

Using the inspector’s reports from 1905-1906, the twenty-six cheese factories found in Lenawee County are easily identified. Whether there were more cheese factories operating in the county during those years may never be known, but more significantly these records show an astronomical leap from the two factories that began operation in 1866, some forty years earlier.

The Dairy and Food Commission inspector responsible for southeast Michigan’s cheese factories in 1905-1906 was Charles O. Bradley, one of seven inspectors hired by the commission in 1904.²⁹² Under the 1905 Dairy and Food Commission legislation, Bradley’s job was one that the commission was allowed to fill at a rate of three dollars a

²⁹¹ List of commodities taken from the various legislative acts during this time period.

²⁹² 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI. Bradley’s name appears on the signature line of all the cheese factory inspection forms for 1905-1906. *Twelfth Annual Report of the Dairy and Food Commissioner of the State of Michigan, Year Ending June 30, 1905* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1905), p. 89.

day plus expenses, the total not to exceed six thousand dollars.²⁹³ At the time Bradley was employed by the state, the Dairy and Food Commission had eleven full-time inspectors on its payroll whose salaries ranged from \$167.60 per year plus expenses to \$955 per year plus expenses. These salaries fit with the legislative directive that regular inspectors would receive one thousand dollars per year.²⁹⁴ However, it appears that only two of the most senior inspectors, both of whom had been with the department for five years or more, received such a pay rate.

Bradley traveled all over the state of Michigan in his role as Dairy and Food Commission special inspector. According to department records, he received \$159 per year in salary and \$165.95 in expenses. He also may have been accorded a uniform or special equipment, as a line item in the budget notes that some of the department's yearly expenses included "Inspector's Outfits."²⁹⁵ By 1905, the individual reports of the inspectors were no longer included in the yearly report of the Dairy and Food Commissioner to the governor of Michigan. So, unlike his predecessors, little is known of Bradley's opinions about his job, the department, its direction or governing legislation. It may never be known whether he was a full-time employee of the department or simply a student at MAC employed for summer work.

According to the archival record, Bradley inspected twenty-six of Lenawee County's commercial cheese factories between May 9, 1905 and October 31, 1905. During those same months, he also toured cheese factories in Hillsdale, Montcalm, and

²⁹³ *Public Acts of The Legislature of the State of Michigan, Passed at the Regular Session of 1905* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1905).

²⁹⁴ *Public Acts of The Legislature of the State of Michigan, Passed at the Regular Session of 1905* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1905).

²⁹⁵ *Twelfth Annual Report of the Dairy and Food Commissioner of the State of Michigan, Year Ending June 30, 1905* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1905), p. 89-90.

St. Clair Counties.²⁹⁶ To comprehend the magnitude of the work in which special inspector Bradley found himself engaged, one need only refer to an October 1905 issue of *The Michigan Farmer*, which published a map of Michigan depicting the number of dairy cows found in each of the state's eighty-three counties. Lenawee County's 23,066 cows came in fourth of the top five, behind Sanilac in first place with 25,997 head, Kent County with 23,975, and Saginaw with 23,402, and slightly ahead of Huron's 23,026. In a time when the average herd size was less than twenty and electric milking machines were still fifty years from being a daily part of farm life, Lenawee County's figure seems considerable.²⁹⁷ Bradley had no small task ahead of him.

Visiting an average of three to four factories per day, Bradley begins his report in the northwest corner of Lenawee County in Cambridge Township on Tuesday, May 9, 1905, wending his way through the various townships to the Ohio border and then back toward Adrian, in the center of the county, to take the train home. It is unknown whether he resided in Lansing where the Dairy and Food Commission's offices were permanently located or whether he called some other part of Michigan home.

Bradley no doubt did most of his traveling by train, when necessary hitching a ride by wagon or buggy to the various cheese factories. It is highly unlikely that he could afford his own car in 1905 or that the department could provide him with one. Only one factory was located at a distance greater than three miles from a railhead, so in some cases he may have walked. Apparently his job was not a difficult one. Bradley appeared to be well versed in his duties and he knew many of the farmers and cheese makers from his several years of service to the state.

²⁹⁶ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

²⁹⁷ *Michigan Farmer Magazine*, "Michigan's Dairy Cows" (October 28, 1905). Map.

Many of the factories Bradley inspected were approaching twenty years of age, with only a few having been built since 1900. The first cheese factory on his route was the Onsted Cheese Factory in Cambridge Township.²⁹⁸ Onsted, founded in 1884, was a stop on the Lake Shore and Michigan Southern Railroad.²⁹⁹ The building housing the cheese factory was an older structure, newly remodeled and reopened in March 1905. Whether the building had originally been a cheese factory or was used for some other purpose, Bradley's report does not say.

The cheese maker at the Onsted Cheese Factory was a fairly young man named L. R. Connors, who worked on commission. Bradley lists Connors as either being the owner or manager of the factory. Connors received his training at MAC in 1899 and had been making cheese only six years.³⁰⁰ During the late 1890s, MAC added cheese making first to its short course offerings and later to its dairy curriculum. The origins of the dairy short course at MAC will be discussed in a later chapter. Connors was one of the first graduates of the program.³⁰¹ At the time Bradley inspected the Onsted Cheese Factory; three other MAC graduates were making cheese in Lenawee County, as previously discussed.

²⁹⁸ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

²⁹⁹ Audrey Woods, *Cambridge Heritage: The History of Cambridge Township and the Village of Onsted* (Onsted, MI: Onsted Historical Society, 1991). Walter Romig's *Place Names of Michigan* lists Onsted as being on a branch of the Michigan and Ohio Railroad Company, p. 417.

³⁰⁰ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³⁰¹ Michigan Agricultural College course books 1895-1910. Michigan State University Archives, Lansing, MI.

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³⁹² 1905 State of
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³⁹³ 1905 State of
Michigan, Lansing, MI.

The product made at the Onsted Cheese Factory was known as “Soft Michigan” and was sold under the brand name of “State No. 61.” Connors received high marks for the neatness of the factory in Bradley’s report.³⁰²

From Onsted, Bradley faced a small dilemma: whether to go to Tecumseh on the Lake Shore and Michigan Southern, then double back to Adrian on the southbound train, which traveled near to the Wolf Creek Cheese Factory, or take a carriage or wagon to the Rome Cheese Factory.³⁰³ Since his inspection reports are not logged or timed in any order other than the day of the month, it would be difficult to say which factory he visited next. Had Bradley access to a vehicle of some sort, the logical guess would be the Rome Cheese Factory.

The Rome Cheese Factory was located in the southern corner of Rome Township, less than ten miles from Onsted, lacking train transportation to or from it in any direction. Built in 1899, the Rome Cheese Factory was one of the newer operations on Bradley’s list. The building was of wood frame construction, which Bradley proclaimed to have a “dirty” floor in his report, and was poorly lit. The cheese maker was E. K. Jenkins, who worked on salary and had thirteen years experience at the time the factory was inspected. Jenkins received his training in Michigan and was most likely taught by another cheese maker. The style of cheese Jenkins reported making was “Soft Michigan,” which he sold under no particular brand name.

With the Rome Cheese Factory behind him, Bradley moved on to the Wolf Creek Cheese Factory, located just north of Adrian in the extreme southeast corner of Adrian

³⁰² 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³⁰³ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI. Railroad maps.

Township. The Wolf Creek Cheese Factory, built in 1894, was a wood frame structure.³⁰⁴

Bradley duly noted in his report that the building had been built by the firm of Davis and Rank, the only cheese factory in the county to have been built by what appears to be an architectural firm or builders of some sort.³⁰⁵ The cheese maker at the Wolf Creek Cheese Factory was Glen Smith, who was trained in Michigan having nine years of experience. Smith used no brand name to sell his product, referring to it only as “Michigan” cheese. Bradley gave Smith a “first class” rating at the end of his inspection.³⁰⁶

Bradley’s next stop was the Home Cheese Factory at Fruit Ridge; he probably knew the very hospitable owner and his wife well. From Adrian, Bradley no doubt took the Wabash Railway Company line to Sandcreek, Michigan.³⁰⁷ From there it was only a mile or so to the magnificent home of George Byron Horton.

As mentioned earlier, Horton was the second generation of his family to manufacture cheese in Michigan, taught by his mother; he had worked in the family cheese business most of his life. Owning more than 1,500 acres, some of it still virgin forest, Horton was one of the wealthiest men in southeast Michigan. He was also active in the Michigan Grange and an avid supporter of the Lenawee County Agricultural Society and its yearly fair. On this trip, Bradley would be inspecting seven cheese

³⁰⁴ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³⁰⁵ State Business Directory. A search of the State Business Directory did not turn up the firm’s name anywhere in southeast Michigan. 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³⁰⁶ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³⁰⁷ Laurie C. Dickens, *Wreck on the Wabash* (Blissfield, MI: Made for Ewe, 2001). Scrapbook history of the George Byron Horton Family compiled by Carolyn Holden.

factories owned by Horton. The first of these was the Home Cheese Factory, which was literally almost in Horton's front yard.³⁰⁸

Horton's parents began manufacturing cheese before the Civil War, which may be why Bradley reported that the factory dated from 1861. Horton was not the cheese maker at the Home Cheese Factory in 1905; a man by the name of F. E. Edmunds was. Edmunds had been trained in "York State," having fourteen years of experience making cheese. The Home Cheese Factory produced "Soft Michigan" cheese, according to inspector Bradley, marketing it under the various names of "Standards," "Doubles," and "Family Favorites." Horton used the brand name "Full Cream" for all his factories, save one; he made an exception for the Home Cheese Factory, which carried its own brand name.³⁰⁹ It is known that Horton prided himself on using only full cream milk to make cheese.³¹⁰ The Home Cheese Factory was a wood frame structure, of which a small portion of the drying and shipping rooms survives today. Bradley gave Horton an "excellent" rating upon his departure.

Wednesday, May 10, found Bradley inspecting the Pentecost Cheese Factory near Pentecost, Michigan in Franklin Township. Again, Bradley may have traveled to the factory by train. The Pentecost Cheese Factory was a mere two years old, having been built in 1903. The cheese maker was W. A. Drake, who worked on commission and held the position of manager/owner. Drake had ten years experience, receiving his training in

³⁰⁸ Biography of George B. Horton, scrapbook history of the George Byron Horton Family compiled by Carolyn Holden.

³⁰⁹ Scrapbook history of the George Byron Horton Family compiled by Carolyn Holden. 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³¹⁰ Scrapbook history of the George Byron Horton Family compiled by Carolyn Holden.

Michigan, but Bradley was no more specific than that.³¹¹ Like most of the cheese makers in Lenawee County, Drake was making “Soft Michigan” cheese, which he marketed under no particular brand name. Despite its newer construction, the Pentecost Cheese Factory received a “bad” rating from Bradley. The poor marks seem to be based on the condition of the factory’s construction and the fact that it was generally dirty.

Bradley managed to inspect only two cheese factories on May 10, 1905. The other was in Tipton, less than five miles from the Pentecost Cheese Factory in Franklin Township. The Tipton Cheese Factory was built in 1896. Bradley listed the owner/manager as W. A. Beebe and the cheese maker as Charles L. Harris, who had been trained in Michigan having nine years of experience. The Tipton Cheese Factory made “Soft Michigan” cheese, marketing it under no particular brand name. Bradley gave the Tipton Cheese Factory a “good” rating.

On Thursday, May 11, Bradley visited only one cheese factory—the Cadmus Cheese Factory, located on the eastern border of Dover Township. C. H. Garnsey was listed in Bradley’s report as both the manager and cheese maker. Garnsey received his training in Ohio, but where in Ohio is unknown.³¹² Garnsey had eight years of experience. The cheese made at the Cadmus Cheese Factory was marketed under the name of “State Brand No. 54.” Bradley gave Garnsey a “good” rating.

Why Bradley only inspected one cheese factory again the next day, Friday, May 12, is unknown; maybe he had become ill or had bogged himself down in paperwork. The Clayton Cheese Factory on the opposite side of Dover Township was his next stop. His

³¹¹ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³¹² 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

rail route took him across the north end of Martin P. Stockwell's land, but Stockwell's cheese factory had been closed for more than a decade when Bradley passed through the area.

The Clayton Cheese Factory had been built in 1899. The owner/manager was the firm of C. C. Colvin and Son. Bradley noted the spelling as Calvin, not Colvin; other local records show the firm's name as Colvin. Colvin and Son owned/managed three cheese factories in western Lenawee County, but most of their operations were based next door in the eastern townships of Hillsdale County. The Clayton Cheese Factory sold its product under the brand of "State No. 36." The cheese maker at the Clayton Cheese Factory was W. G. Burger, a young man who had graduated from the MAC in 1902, who now had three years of experience. Burger worked on commission. Bradley gave the Clayton Cheese Factory a "good" rating.³¹³

Bradley moved on to the Rollin Cheese Factory on Saturday, May 13.³¹⁴ Built in 1901, this Rollin Cheese Factory was most likely not the same operation as was mentioned earlier by one of Jacob Baker's clients.³¹⁵ How many cheese factories were located at one time in Rollin Township is unknown. The owner/manager of the Rollin Cheese Factory in 1905 was B. L. Peebles, while the cheese maker was listed as L. A. Downer. Downer had six years of experience, having been trained in Michigan, and was paid a salary rather than a commission. Peebles sold his "Soft Michigan" cheese under

³¹³ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³¹⁴ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³¹⁵ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI. Personal Papers of Jacob Baker, Secretary of the Raisin Union Cheese Factory, Raisin Township, Lenawee County, Michigan. Collection of the Lenawee Historical Society and Museum, Adrian, MI.

the brand name of “Sweet Clover Full Cream.” Bradley gave the Rollin Cheese Factory an “excellent” rating.

Bradley’s second stop on May 13 was at the Addison Cheese Factory, northwest of Rollin in Woodstock Township. Constructed in 1902, the Addison Cheese Factory was owned and managed by Kline, Dean and Rogers. The cheese maker, F. D. Smith, worked on salary, was trained in Michigan, and had nine years of experience making cheese. The firm sold its “Soft Michigan” cheese under the brand name of the Addison Cheese Company. Bradley gave the operation a “first class” rating.³¹⁶

On Monday, May 15, Bradley headed for the Hudson Centre Cheese Factory, located three miles east of the town of Hudson on the western edge of Lenawee County. Built in 1880, the Hudson Centre Cheese Factory was the only factory on Bradley’s list making “Michigan Cheddar” cheese, a process that refined the cheese curds and aged the cheese longer than the process for making “Soft Michigan” cheese. The cheese maker at Hudson Centre was A. B. Greer, a graduate of MAC who had been making cheese for five years. The owner of the cheese factory was M. E. Dillon. The cheese made at the Hudson Centre Factory was sold under the brand name of “Hudson Centre Cheese Factory Full Cream.” Bradley gave the operation a “fair” rating.³¹⁷

Next, Bradley traveled to the Medina Cheese Factory in Medina Township. This was one of five operations that Bradley would inspect in the township.³¹⁸ The Medina Cheese Factory was owned/managed by C. C. Colvin and Son. Colvin apparently trusted

³¹⁶ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³¹⁷ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³¹⁸ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

the education and experience given to students at the MAC in cheese making, since his cheese maker at this location was F. R. Bryan, one of the early graduates of the MAC program. Bryan had been making cheese for six years, starting in 1899, and worked on commission. Colvin and Son sold their “Soft Michigan” cheese from this factory under the name “State Brand No. 11.” Rather than have one unifying brand name for all his factories, Colvin appears to have allowed each of his factories to independently register its own brand name for product sales. Bradley gave the Medina Cheese Factory a “fair” rating; constructed in 1865, the building had poor ventilation.

Next Bradley headed for the Canandaigua Cheese Factory, located only a few miles from Medina on the Medina and Seneca Township border. The Canandaigua Cheese Factory belonged to George Byron Horton. Built in 1895, this wood frame building and its operations received an “excellent” rating from Bradley. The cheese maker was E. M. Dewey, who had been trained in Ohio having thirteen years experience at making cheese. Dewey worked on commission. Horton sold the “Soft Michigan” cheese from this factory under the brand name of “Full Cream.”³¹⁹

Tuesday, May 16 found Bradley halfway through his inspection route. His only stop in Lenawee County that day was at the Lime Creek Cheese Factory, established in 1901 and located eight miles south of Hudson. S. S. Bade and Son owned this operation. The cheese maker was Fred Shoemaker, who had five years experience. Shoemaker marketed his “Soft Michigan” cheese under the brand name of “Full Cream.” Bradley gave the factory a “good” rating. From Lime Creek, Bradley moved across the county

³¹⁹ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

border and into eastern Hillsdale County. On May 16, he inspected the Prattsville Cheese Factory and on Wednesday, May 17, he inspected the Pittsford Cheese Factory.

Crossing back into Lenawee County, Bradley traveled to Seneca and the Maple Lawn Cheese Factory on Thursday, May 18.³²⁰ Maple Lawn Cheese Factory was built in 1869 and was owned by G. H. Rorick, nephew of George Byron Horton.³²¹ Horton's sister had married G.H.'s father, Cosper Rorick.³²² The senior Roricks had gone into the cheese business soon after their marriage. Rorick sold his product under the brand names of "Maple Lawn" and "Full Cream."³²³ The cheese maker was A. J. Whittaker, who had learned to make cheese in Ohio some ten years earlier. Bradley gave the Maple Lawn Cheese Factory a "good" rating.

Traveling down the Wabash Railway Company line, Bradley made his second stop of the day at the North Morenci Cheese Factory. North Morenci was a small boomtown located north of the larger town of Morenci.³²⁴ The North Morenci Cheese Factory was the newest of the operations Bradley inspected that May, having opened in April 1905. The cheese maker was Lafayette Keenan, who had been trained in Michigan and having five years of experience. The owner of the factory was C. C. Colvin and Son. Colvin sold this product under the name "State No. 23." Despite the newness of the factory, Bradley gave the cheese maker only a "good" rating.

³²⁰ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³²¹ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI. Scrapbook history of the George Byron Horton Family compiled by Carolyn Holden.

³²² Samuel Horton biography, scrapbook history of the George Byron Horton Family compiled by Carolyn Holden.

³²³ Samuel Horton biography, scrapbook history of the George Byron Horton Family compiled by Carolyn Holden. 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³²⁴ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI. Map of Lenawee County.

Bradley's next stop was the Morenci Cheese Factory. Built in 1894, the factory was located in what was then one of the larger towns in Lenawee County.³²⁵ Morenci was founded in 1836;³²⁶ by the 1920s, Morenci would also become one of the larger dairy processing centers in the county. The Morenci Cheese Factory, under cheese maker L. E. Johnson, sold "Soft Michigan" cheese under the brand name of "Full Cream." Johnson trained in Michigan and had nineteen years of experience. Bradley gave the factory a "good" rating.

The final stop on Bradley's inspection tour on May 18 was the cheese factory at Bimo, located on the Fairfield/Seneca Township line.³²⁷ Bimo was a railway depot on the Lake Shore and Michigan Southern Railway Company line, three miles west of Weston.³²⁸ The Bimo Cheese Factory was owned by George Byron Horton. Built in 1885, it was rated "fair at present," possibly because of the building's age. The cheese maker was Jay Mason, who had been making cheese only four years. Horton sold "Soft Michigan" cheese from this factory under the brand name "Full Cream."

Bradley visited three cheese factories on Friday, May 19. The first was the Riverside Cheese Factory three miles north west of Weston.³²⁹ This facility was built in 1870 and was owned by Baker and Jurden. The cheese maker at Riverside was F. B. Jurden, who had been trained in Ohio, having thirty-five years of experience. The "Soft

³²⁵ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI. History of Morenci, Michigan. According to Walter Romig's *Place Names of Michigan*, Morenci was platted in 1836 and originally named Brighton, p. 379-380.

³²⁶ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³²⁷ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³²⁸ Legislative Manual 1905 or earlier. According to Walter Romig's *Place Names of Michigan*, Bimo was only a depot stop by 1905 as the post office was closed in 1903.

³²⁹ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

Michigan” cheese sold from this factory was marketed under the brand name “Riverside Full Cream.” Bradley gave Jurden a “good” rating.

Bradley’s second stop on May 19 was at the Acme Cheese Factory, located three miles south of Jasper. Built in 1886, it was owned by C. H. Delano and Son. George Delano, Charles’ son, was the cheese maker and had been making cheese for twenty-eight years. The Delanos sold their “Soft Michigan” cheese under the brand name of “Full Cream.” Bradley gave the factory a “fair” rating.

Bradley’s last stop of the day was at the Ogden Centre Cheese Factory in Ogden Township. The owner and cheese maker was Ira Smith. Smith was a long-time resident of the township and had one of the larger dairy operations in the area. He had been making cheese for twenty-nine years, marketing his “Soft Michigan” cheese under the brand name of “Ogden Full Cream.” Smith received a “good” rating from Bradley.³³⁰

On Saturday, May 20, Bradley made one final push to complete his inspection run through Lenawee County’s cheese factories. On that day he visited four operations. The first was the Weston Cheese Factory, which was built in 1889 and was owned by George Byron Horton. Austin Baker, the cheese maker, had twenty-two years of experience and had been trained in Michigan. Horton sold this cheese under the brand name of “Soft Michigan, Full Cream.” Bradley gave Horton’s factory a “good” rating.

The second stop on Bradley’s list was the Jasper Cheese Factory, built in 1888 and also owned by Horton. The cheese maker was J. C. Bellner, who had been trained in Michigan, having twelve years of experience. Horton sold cheese from this factory under the name of “Soft Michigan, Full Cream.” Bradley gave this factory a “good” rating.

³³⁰ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

The third operation that Bradley inspected on May 20 was the Fairfield Cheese Factory, owned by Horton and built in 1885. The cheese maker was G. S. Bessey, who was trained in Michigan but had only three years experience.³³¹ Horton sold cheese from this factory under the brand name of “Soft Michigan, Full Cream.” Bradley gave this factory a “good” rating.

The Sand Creek Cheese Factory was last on Bradley’s list. Built in 1885, just four years after the founding of the tiny town on the Wabash Railway Company line, the Sand Creek Cheese Factory was begun as a partnership of John Tolford and George Byron Horton. By the time Bradley inspected the plant in 1905, Horton was the sole owner. The cheese maker was Charles Dewey, who had been trained in Ohio, having ten years experience. Again, Horton sold his “Soft Michigan” cheese under the brand name of “Full Cream.” Bradley gave the Sand Creek Cheese Factory a “good” rating and headed for Adrian on the next Wabash Railway Company train.

Bradley had finished his inspection route: twenty-seven cheese factories in ten days. He would return to Lenawee County one more time on June 29, 1905, when he inspected the Bogert Cheese Factory.³³² In the meantime, Bradley was assigned to inspect cheese factories in Grand Traverse, Clinton, and Grand Blanc counties. Later in the summer and early fall of 1905, he inspected cheese factories in Montcalm and St. Clair counties. While Bradley was in other parts of the state, inspectors Munn, Horton, Hanson, and Hellier were examining Lenawee County’s cheese factories. However, there the records in the Archives of Michigan end. Bradley’s two-week tour of the Lenawee

³³¹ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

³³² 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

County cheese factories provides us with a wealth of knowledge about commercial cheese production in southeast Michigan, along with insights into the inner workings of Michigan's early Dairy and Food Commission. Michigan Governor Fred M. Warner praised the inspection program in a 1907 letter to the Michigan legislature:

“There has been not only an increase in the quantity of the production of dairy products, but the quality has been greatly improved. This result can be attributed almost entirely to the operation of the new law (1907). Thorough factory and dairy inspections and expert criticism of the products have improved the quality and the product has more nearly approached a uniformity in general quality. As a result, Michigan dairy products bring a higher proportionate price in the best markets in the country than ever before. In consequence of this, the number of creameries and cheese factories have greatly increased and the farmers of the state are realizing a much greater amount from this important industry.”³³³

³³³ George N. Fuller, *Messages of the Governors of Michigan Volume IV* (Lansing, MI: The Michigan Historical Commission, 1927), pp. 432-458.

Michigan Agricultural College Assists the Commercialization of Cheese

Separated from the State Board of Education less than two years, the newly created State Board of Agriculture (SBA) struggled to meet its legislative mandate. At the issue of the SBA's first annual report in 1862, the board still had not elected a secretary. The secretary's duties fell to T. C. Abbot, incoming president of MAC. Abbot commented on the slow process of electing a secretary: "The Reports of the Secretaries of New York, Maine and Massachusetts, eagerly sought after for their intrinsic values, show what kind of benefits may be derived from the office when the proper man shall devote himself to the duties."³³⁴

The following year, 1863, SBA still had not found a permanent secretary. The board did, however, appoint C. A. Kenaston as its secretary pro tem. At the time of his appointment, Kenaston was instructor of the college's Preparatory Class.³³⁵ The second annual report of the SBA, published by Kenaston, noted that the board had spent the previous year devoted to the interests of the college rather than the search for a secretary.

MAC still had many obstacles to overcome in its relationship with Michigan's agriculturalists. Not the least of which, Kenaston reported, were complaints over the college's distance from the population centers of southeast Michigan and its proximity to the Michigan legislature. Through the platform of the second annual report, Kenaston reminded Michigan's agricultural interests that Lansing was connected to most of the

³³⁴ State of Michigan, State Board of Agriculture, *Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1862* (Lansing, MI: John A Kerr and Co., 1862), p. 6.

³³⁵ William James Beal, *History of the Michigan Agricultural College and Biographical Sketches of Trustees and Professors* (East Lansing, MI: The Agricultural College), p. 54.

surrounding region by railroad and “Lansing bids fair to be, at no distant day, the geographic center of the general interests of the State.”³³⁶

At issue, too, was the use of “The Farm.” Was its purpose simply to employ students in useful labor for wages, or was it to be a place of learning, experimenting with both good and bad agricultural practices and technologies? Kenaston reminded his readers that SBA intended the Farm to be an experiment in modern farming practices with a highly qualified and engaged faculty.³³⁷ Michigan’s agriculturalists wondered what had happened to SBA’s commitment to disseminate knowledge learned on the Farm. Without a permanent secretary, SBA’s mandate to engage the agricultural community through published articles was slipping from view.

SBA’s first and second annual reports contained a run-down on college expenses, course work, farm receipts, and student profiles. The second annual report also contained Professor Kedzie’s weather reports. The now-famous continual accounting of the climate at MAC began with Kedzie’s arrival in 1863 and concluded with his death in 1902.

It is at this juncture that the arrival of Robert Clark Kedzie, Professor of Chemistry at MAC in 1863, should be remembered, along with the introduction of Manly Miles, M.D., Professor of Zoology and Animal Physiology, who arrived at the college in 1860. Ten years earlier, Miles received his medical degree from Rush Medical College in Chicago. Having grown up in Flint, Miles returned to Michigan to take part in the state’s

³³⁶ State of Michigan, State Board of Agriculture, *Second Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1863* (Lansing, MI: John A Kerr and Co., 1863), pp. 7-12.

³³⁷ State of Michigan, State Board of Agriculture, *Second Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1863* (Lansing, MI: John A Kerr and Co., 1863), pp. 7-12.

geological survey, being appointed an assistant geologist in the department of zoology.

This led, one year later, to Miles' appointment as professor of zoology at MAC.³³⁸

Kedzie and Miles were soon joined by Albert Prentiss (Instructor of Botany and Horticulture and Superintendent of the Gardens) and Oscar Clute (Instructor in Pure and Applied Mathematics—later college president). This group of men formed a small but very distinguished faculty whose core of instruction centered on general farming, botany, animal physiology, chemistry, engineering, and the classics.³³⁹ With detractors momentarily placated, SBA members returned to their search for a secretary in 1864.

Sanford Howard

How the search was conducted or who was involved is not recorded in the third annual report of the SBA. With little fanfare or introduction, Sanford Howard issued the third annual report of the SBA on December 15, 1864. Howard apparently wasted little time in establishing himself in his new position as permanent secretary of the SBA.

Born in Easton, Bristol County, Massachusetts, on August 7, 1805, Howard was approaching sixty years of age when he became secretary of the SBA. His interest in agriculture began as a boy in district school, nurtured by his father's extensive agricultural library, and given firsthand experience on the care of breeding livestock from neighboring farmers Col. Samuel Jaques and the Hon. John Welles, renowned livestock breeders of their day. With this limited (by today's standards) but practical education, Howard became well known in the New England livestock community. So extensive was

³³⁸ William James Beal, *History of the Michigan Agricultural College and Biographical Sketches of Trustees and Professors* (East Lansing, MI: The Agricultural College), p. 404.

³³⁹ State of Michigan, State Board of Agriculture, *Second Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1863* (Lansing, MI: John A Kerr and Co., 1863), pp. 31-32.

his practical knowledge that he soon began to write for the region's leading agricultural journals.³⁴⁰

As a young man, Howard moved to Kennebec, Maine to write for the *Maine Farmer*. While in residence there, he helped to found the Kennebec Agricultural Society. From Maine, Howard and his young family moved to Zanesville, Ohio in 1837, where he engaged in farming while continuing to write on agriculture-related topics and founding the Muskingum County (Ohio) Agricultural Society. His opinion on breeding stock was highly regarded among his Ohio farm neighbors, who sent him on several occasions to Massachusetts and New York to purchase stock.³⁴¹

In 1844, Howard accepted the position of associate editor with the Albany, New York-based publication *Cultivator*. While in Albany, he became active in the New York State Agricultural Society. Now with a network of colleagues in four states, Howard accepted an editorial position in *Cultivator*'s Boston office. He returned, full circle, to Massachusetts in January 1852.³⁴²

Howard remained in Boston for the next twelve years, eventually becoming editor of the *Cultivator*. In 1857, the Massachusetts Society for the Promotion of Agriculture sent him on a stock-buying trip to Europe. So successful was his trip that he returned to Europe the following year. On this trip, Howard purchased Ayrshire cattle in Scotland,

³⁴⁰ State of Michigan, State Board of Agriculture, *Ninth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1870* (Lansing, MI: W. S. George and Co., 1870), pp. 55-56.

³⁴¹ State of Michigan, State Board of Agriculture, *Ninth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1870* (Lansing, MI: W. S. George and Co., 1870), pp. 56-57.

³⁴² State of Michigan, State Board of Agriculture, *Ninth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1870* (Lansing, MI: W. S. George and Co., 1870), pp. 57-58.

Morgan horses in England, and Percheron horses in France, to name but a few of the breeds with which he greatly improved New England's stock.

In February 1864, Howard was elected to Michigan's SBA. Before his departure, his New England friends and colleagues feted him with a dinner at the Parker House in Boston.³⁴³ To the assembly that evening, he said, "Gentlemen, the destinies which control me seem to require that I shall take up my residence in a distant locality. What there awaits me cannot be foreseen."³⁴⁴ Upon his arrival in Michigan, Howard and his family took up residence in Lansing, the only SBA secretary to do so.³⁴⁵

Within a month of his arrival, Howard sent a letter to a number of southern Michigan's leading agriculturalists. "(I) desire to obtain correct information in regard to the Agricultural resources of the State, and with this view proposed the questions herewith annexed," he wrote.³⁴⁶ The survey contained twenty-eight questions on a variety of topics including cultivated crops, livestock, implements, and manures. The counties responding to Howard's request included: Berrien, Calhoun, Cass (two respondents), Genesee (three respondents), Hillsdale, Kalamazoo (two respondents), Lapeer, Macomb,

³⁴³ State of Michigan, State Board of Agriculture, *Ninth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1870* (Lansing, MI: W. S. George and Co., 1870), pp. 58-69.

³⁴⁴ State of Michigan, State Board of Agriculture, *Ninth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1870* (Lansing, MI: W. S. George and Co., 1870), p. 67.

³⁴⁵ William James Beal, *History of the Michigan Agricultural College and Biographical Sketches of Trustees and Professors* (East Lansing, MI: The Agricultural College), p. 379. Other SBA secretaries would take up residence on the MAC campus.

³⁴⁶ State of Michigan, State Board of Agriculture, *Third Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1864* (Lansing, MI: John A Kerr and Co., 1865), pp. 7-9.

Monroe (two respondents), Ottawa, and St. Joseph. Conspicuously absent from the list of respondents is any representative of Lenawee County.³⁴⁷

Questions seven, nine, and ten of Howard's query relate directly to the manufacture of butter and cheese in Michigan. The answers to these three questions paint a unique picture of the dairy industry in the mid-nineteenth century. The survey asked:

7. What have been the prices of beef, pork, mutton, butter, and cheese at your principal market stations or towns?

9. What is the average annual yield of butter per cow, and what of cheese?

10. What is the relative cost per pound of butter and cheese? State if cheese is made in the so-called "factory system," in your neighborhood, and with what results.³⁴⁸

The majority of responses to question seven showed that dairying was not a practiced industry in the region. "Dairying not followed," wrote a Berrien County farmer. "There is not enough dairying in this section to establish a price for the produce in our market towns," wrote a Cass County farmer. "There is no cheese made in the colony," wrote an Ottawa County farmer. Region-wide, cheese appeared to be running between \$.08 and \$.16 per pound. Though not manufactured commercially, apparently enough

³⁴⁷ State of Michigan, State Board of Agriculture, *Third Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1864* (Lansing, MI: John A Kerr and Co., 1865), pp.7-9.

³⁴⁸ State of Michigan, State Board of Agriculture, *Third Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1864* (Lansing, MI: John A Kerr and Co., 1865), p. 8.

cheese was produced by home dairies and farm women in the region to support some sort of market price for cheese.³⁴⁹

Michigan's antebellum farmers, according to their responses to Howard's questions, were concentrating on beef and hog production, which were both drawing an average of \$3 per hundredweight, though prices varied from county to county. Butter made by home dairies was selling from \$.10 to \$.30 per pound.³⁵⁰ At the time Howard posed his agricultural inquiry, Michigan was still heavily engaged in fighting the Civil War and it is unknown from the responses if these prices were inflated for war profit or how much of the region's beef, pork, and butter was being sent out of the state in support of the Union army.

Question nine was universally answered with some variation of "I don't know" or "unable to tell." Since farmers in southern Michigan were not heavily engaged in cheese production, the respondents were unable to give an annual yield rate per cow for butter or cheese. One Kalamazoo farmer wrote, "No extensive dairies. Butter and cheese are of secondary interest and is left to care for itself." A Berrien County farmer replied, "There have been but few cattle of improved breeds brought into this section." At least five counties—Genesee, Lapeer, Macomb, Monroe, and Ottawa—were able to report an annual yield of one hundred pounds of butter per cow—nowhere near the yields that would be reflected in the coming years. Factors to be considered in this low number are

³⁴⁹ State of Michigan, State Board of Agriculture, *Third Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1864* (Lansing, MI: John A Kerr and Co., 1865), pp. 10-67.

³⁵⁰ State of Michigan, State Board of Agriculture, *Third Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1864* (Lansing, MI: John A Kerr and Co., 1865), pp. 10-67.

lack of good stock, lack of interest in dairying and home production, and consumption of butter. "Cheese," according to one Ottawa County farmer, "is for home use."³⁵¹

Howard tried again in question ten to establish the production value of butter and cheese. In the following response came the answer Howard had no doubt been looking for:

"There is so little cheese made in this vicinity," wrote a Macomb County farmer, "that it bears a higher price in proportion to butter than is usual at the East. Last summer cheese was as high as butter. There is not cheese enough made for home consumption, and it is brought from Ohio and Western New York. Cheese is made on the old system, each dairy-woman making what she can when the weather is too warm for making butter."³⁵²

A St. Joseph County farmer wrote, "Cheese is not made here on the 'factory system.' Very little is made in this portion of the State." A Genesee County farmer wrote, "Cheese is not made in sufficient quantities to warrant the outlay attending the factory system." Howard discovered the course of action he must take to introduce commercial cheese making to southern Michigan farmers. He would need to find someone to take the leap into commercial cheese making. Within the year, Howard would convince Rufus Baker of Fairfield Township, Lenawee County to give the idea a try.

Sanford Howard's position as SBA secretary, his knowledge of breeding stock and agricultural practices, and Michigan's need to diversify its post-Civil War agriculture laid the groundwork for the commercialization of cheese production. His next task was to align MAC and its resources to aid Michigan's farmers for the course ahead. This would

³⁵¹ State of Michigan, State Board of Agriculture, *Third Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1864* (Lansing, MI: John A Kerr and Co., 1865), pp. 10-67.

³⁵² State of Michigan, State Board of Agriculture, *Third Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1864* (Lansing, MI: John A Kerr and Co., 1865), pp. 10-67.

be no easy task. Michigan's farmers were getting fair prices for beef and hogs and were still heavily tied to the wheat and wool industry, despite setbacks of disease, soil depletion, and the rising glut of wool in foreign markets, especially from Australia. To support the state's agriculturalists in wool production, MAC offered sheep management to fourth-year students in its practical agriculture course, and a general farming course, but no programs specifically related to dairy production.³⁵³

As Howard began the successful implementation of the cheese factory system among southern Michigan's farmers, Manly Miles (Professor of Practical Agriculture and Superintendent of the Farm 1865-1875) introduced dairying to the MAC campus. Miles purchased a few Ayrshire cattle—an unimpressive herd in the beginning—for the Farm in 1867. As more farmers in the state began the switch to dairying, it was soon realized that a better breed of cattle was needed for better product results. Upon Miles' departure from MAC, his successor, Samuel Johnson, bought the first registered cow, a Friesien, in 1881.

The Ninth Annual Report of the SBA was published in 1871, a few months after Sanford Howard's death. Overtaken by a stroke while at MAC, Howard died at his Lansing home on March 9, 1871. So highly esteemed was he by his colleagues both at MAC and within the Michigan legislature, his funeral was conducted from the floor of the Michigan House of Representatives, which adjourned upon news of his death. MAC President Abbot delivered the funeral eulogy to a large crowd of mourners, while Speaker of the Michigan House of Representatives Woodman, senator and future governor

³⁵³ *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1865* (Lansing, MI: John A. Kerr and Co., 1865), pp. 1-35.

William Begole, Representatives Hart and Cameron, and MAC professors Miles and Fairfield served as pallbearers.³⁵⁴

The editor of the *Michigan Farmer* noted Howard “to be a sincere, unassuming man, mild and quiet in manner and studious of habit, who helped others, aiding in the increase of a correct knowledge of practice and principles of agriculture rendering it a nobler pursuit.” Members of the Michigan Senate proclaimed his death to be a “public calamity.” MAC President Abbot noted Howard’s goal had been to “raise the standard of agriculture to the highest attainable point, and he only sought to disseminate truth in the great science of agriculture.”³⁵⁵ At the time of Howard’s death, the number of cheese factories in Lenawee County was steadily growing.

Ironically, the Ninth Annual Report of the SBA features a brief question and answer section on “Dairying in Michigan,” to which Howard had written a response. The questions relate to the export of Michigan-produced cheese to national and foreign markets. Again, he provides an insightful look at the commercial cheese industry. He notes that a drought in New York’s dairy region the previous year (1870) would allow Michigan dairy farmers a greater advantage in the national market. The style of cheese produced by Michigan’s factory system—a product ready for market in less than sixty days—would give Michigan the advantage in eastern markets. Liverpool and London

³⁵⁴ State of Michigan, State Board of Agriculture, *Ninth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1870* (Lansing, MI: W. S. George and Co., 1870), p. 72. In 1871, the Michigan legislature was housed in a wood frame structure on the southeast side of downtown Lansing. Construction of the “new capitol” building began in 1872 and was completed in 1879.

³⁵⁵ State of Michigan, State Board of Agriculture, *Ninth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1870* (Lansing, MI: W. S. George and Co., 1870), pp. 71-73.

markets were holding strong for American cheese and would continue to do so for some time to come, he predicted.³⁵⁶

With Howard working on the factory system in southeast Michigan and Miles' introduction of Ayrshire cattle to the Farm, in 1870 Robert Clark Kedzie offered MAC's first lecture on "Chemistry of the Dairy" to the state's future dairymen. "Chemistry of the Dairy" would lay the groundwork for further dairy instruction on all levels and eventually give Kedzie the opportunity to bring the work of the state dairy analyst to MAC's doorstep (some twenty years in the future).³⁵⁷ Through the efforts of these three men—Howard, Miles, and Kedzie—MAC would become a national leader in dairy education. As noted, MAC students took their course work into the operation of southern Michigan's local cheese factories, improving the product and, later, lifting commercial cheese production into an even more industrialized factory system at century's end.

Following Kedzie's lead, Miles introduced a practical agricultural course on dairy farming in 1872. For the next decade, Miles used a text titled *Flint's Milch Cows and Dairy Farming* as the basis for his instruction.³⁵⁸ This is the first reference book related to a dairy course listed in MAC's course catalogue.

In 1882, the dairy text for the study of practical agriculture was updated to *Sheldon's Dairy Farming*.³⁵⁹ That same year, the study of the *American and English Shorthorn Herd Books, the Ayrshire, Jersey, Devon and Hereford Registers* was added to

³⁵⁶ State of Michigan, State Board of Agriculture, *Ninth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan for the Year 1870* (Lansing, MI: W. S. George and Co., 1870), pp. 153-157.

³⁵⁷ *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1870* (Lansing, MI: W. S. George and Co., 1870), p. 21.

³⁵⁸ *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1872* (Lansing, MI: W. S. George and Co., 1872), p. 23.

³⁵⁹ *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1881-1882* (Lansing, MI: W. S. George and Co., 1882), p. 25.

the practical agriculture curriculum.³⁶⁰ This was the first time the course took such a specific look at dairy breeds. Improving Michigan's dairy herds had been a goal of Sanford Howard.

In the thirtieth year of MAC's operation, Michigan Grange member George Byron Horton of Fruit Ridge was appointed to the SBA, replacing Thomas Dewey of Owosso.³⁶¹ Horton's four-year term ran from 1887 through 1891,³⁶² though he served less than two years.³⁶³

Other Grange members who supported MAC during those years included Cyrus G. Luce, State Master (1880-1887) and governor of Michigan (1887-1891), Mary A. Mayo, two-term State Grange Chaplain (1888-1890 and 1892-1903), and Dora H. Stockman, State Grange Lecturer (1914-1930) and the first woman to hold a seat on the SBA (1920-1932). Horton's support included sending his two sons to MAC.³⁶⁴

During this time period (1883-1885), the words "scientific agriculture" were first used in MAC's annual course catalogue.³⁶⁵ Arthur C. Bird of Highland, Michigan exemplified MAC's goals for its new scientifically trained farmers. Bird, a member of the class of 1883, put his scientific training to good use, buying a farm soon after graduation. Using the skills learned at MAC, he built his farm to the point that the SBA awarded him

³⁶⁰ *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1882-1883* (Lansing, MI: W. S. George and Co., 1883), p. 22.

³⁶¹ *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1885-1886* (Lansing, MI: Thorp and Godrey, 1886), p. 6.

³⁶² *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1887-1888* (Lansing, MI: Thorp and Godrey, 1887), p. 7.

³⁶³ *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1888-1889* (Lansing, MI: Darius D. Throp, 1889), p. 8.

³⁶⁴ Fred Trump, *The Grange in Michigan: An Agricultural History of Michigan over the past 90 years* (Grand Rapids, MI: The Dean-Hicks Co., 1963), p. 257. Widder, p. 61. Luce began his career in state government by serving as state oil inspector 1879-1883, Michigan Manual 1895, p. 152. Before that, he served as a state senator from Gilead, Branch County at the end of the Civil War. Michigan Manual 1895, p. 232. Michigan State Agricultural Catalogue 1920-1922, p. 5 both catalogues.

³⁶⁵ *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1884-1885* (Lansing, MI: W. S. George and Co., 1885), p. 8.

the degree of Master of Agriculture. In 1897, Michigan Governor Hazen Pingree appointed Bird to the SBA where he served until resigning to become SBA secretary (1899-1901). He was an active member of the Michigan's Farmers Clubs, serving at various levels of the organization and editing the Club's column for the *Michigan Farmer*. Bird would later become the Dairy and Food Commissioner for the state of Michigan, serving from 1905 to 1910.³⁶⁶

In addition to the classics, botany, and mathematics, a degree in agriculture from MAC at the end of the nineteenth century included dairy instruction, but also course work on soils and crops, general farm operations, carpentry, and blacksmith work. In 1897, the college's regular dairy course work centered on butter production, which began in the student's sophomore year. Instruction in this line of work included methods of ensuring cleanliness in all dairy operations, use of various types of equipment, and instruction in subjects such as pasteurization and sterilization of milk and cream.³⁶⁷

Clinton DeWitt Smith and the "Short Course"

In September 1893, Clinton DeWitt Smith arrived at MAC to take up the appointment of Professor of Practical Agriculture and Superintendent of the Farm. His additional duties included agriculturalist to MAC's Experiment Station. Born in Trumansburg, New York, Smith had several degrees from Cornell University (New York), among them agriculture and law. His impressive resume included director of the

³⁶⁶ William J. Beal, *History of Michigan Agricultural College and Biographical Sketches of Trustees and Professors* (East Lansing, MI: Agricultural College), p. 384.

³⁶⁷ *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1897-1898* (Lansing, MI: Robert Smith Printing Co., 1897), p. 59.

Arkansas Experiment Station (1890) and director of the Experiment Station and professor of dairy husbandry at the University of Minnesota (1891-1893).³⁶⁸

Smith's arrival at MAC signaled a new era for the college, particularly in its dairy course work. Almost immediately, Smith went to work on improvements to MAC's dairy herd through experimental feeding and breeding, introducing a line of purebred Holsteins in 1893. Smith, raised a farmer, noted the editor of the *Sunfield Sentinel* knew dairy farming from the "ground up" and was a "rattling good orator." Smith is credited with erecting the first dairy building on the college's farm specifically for the purpose of conducting experiments and teaching dairy courses (1900). A frequent lecturer and advisor to the Michigan Dairymen's Association, he worked with the state's dairy farmers as they continued to grow their interests in butter and cheese production. In return, the Michigan Dairymen's Association lobbied the state legislature on behalf of Smith's programs.³⁶⁹

Instrumental in expanding the Farmer's Institute program, Smith also worked to create the college's first short course program, serving as the Short Course Dean from 1900 to 1908. Smith believed in the Grange motto, continued the editor of the *Sunfield Sentinel*, "that the farmer is greater than his farm and should be cultivated first."³⁷⁰

³⁶⁸ William J. Beal, *History of Michigan Agricultural College and Biographical Sketches of Trustees and Professors* (East Lansing, MI: Agricultural College), p. 435.

³⁶⁹ William J. Beal, *History of Michigan Agricultural College and Biographical Sketches of Trustees and Professors* (East Lansing, MI: Agricultural College), p. 435. Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), p. 126. The dairy barn was built, in part, because of lobbying of the legislature by the Michigan Dairymen's Association "for the erection and equipment of a suitable dairy building" at the agricultural college. Rufus Baker, George Horton, and Fred Warner were life members of the organization.

³⁷⁰ William J. Beal, *History of Michigan Agricultural College and Biographical Sketches of Trustees and Professors* (East Lansing, MI: Agricultural College), p. 435.

Based on such a principle, Smith saw no reason for dairy students to neglect their studies or prescribed duties to the college's farm and its daily work. Although somewhat controversial at first, this work counted toward the student's tuition expenses, contributed to his physical well-being, and was intended to "give a practical familiarity with the system practiced on the College Farm, fixing in the student's mind the instruction received in the classroom."³⁷¹

Most of the college's farm work was conducted according to the "Daily Routine" schedule between the hours of one o'clock and five o'clock each afternoon, except for Saturday and Sunday.³⁷² In 1897, the hours a student was engaged in such work were determined by the SBA to be a minimum of two and one-half hours per day.³⁷³ According to Keith Widder, Michigan State University sesquicentennial historian,

"Practical dairying required students to spend time in the barn, the dairy, and the field, as well as in the classroom, the shop, and the laboratory. The curriculum called for students to gain knowledge of soils, fences, crops, accounts, and planning of farm work in addition to acquiring minimal skills in blacksmith and carpentry. Students spent two hours a day for ten weeks in the barns learning the characteristics of horse, cattle, sheep, swine, and poultry. Knowledge of chemistry was a prerequisite before studying stock feeding during the first six weeks of winter term of the sophomore year."³⁷⁴

Under Smith's guidance at midterm of their sophomore year, dairy students became familiar with creamers, separators, and churns, among other equipment. They

³⁷¹ *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1884-1885* (Lansing, MI: W. S. George and Co., 1885), p. 31.

³⁷² *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1888-1889* (Lansing, MI: Darius D. Throp, 1889), p. 62.

³⁷³ *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1897-1898* (Lansing, MI: Robert Smith Printing Co., 1897), p. 87.

³⁷⁴ Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), p. 127

also learned how to use the Babcock Test and the importance of pasteurization and sterilization when processing milk and cream.³⁷⁵

Ever mindful that not all of the young men interested in attending MAC could afford a four-year degree or take time away from their family farms to pursue such a degree, Smith took hold of an idea that had been circulating at MAC since Sanford Howard's arrival some thirty years earlier—that of developing a shortened course of study. Based on the popular Farmer's Institute and with later backing from the Michigan Dairymen's Association and the Michigan Grange, Smith opened the first "Short Course" during the winter of 1894.

Smith and twenty-seven eager students met in a small room in the basement of the agricultural laboratory for the first six-week dairy course.³⁷⁶ Drawing from the curriculum of the four-year dairy program, his students learned the practical work in handling dairy cows and making butter, including enough of the sciences to give a rational basis for the methods suggested. Unless otherwise specified, the classes met daily.³⁷⁷ Only men were admitted to the program.

The short course at MAC proved to be an immediate success. Well established and greatly expanded by 1896, MAC began offering short courses in the management of horses, sheep, cattle and swine, each subject including enough of the sciences and

³⁷⁵ Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), p. 127

³⁷⁶ William J. Beal, *History of Michigan Agricultural College and Biographical Sketches of Trustees and Professors* (East Lansing, MI: Agricultural College), p. 100.

³⁷⁷ *Catalogue, Officers and Students of the Michigan State Agricultural College, 1896* (Lansing, MI: Thompson and Van Buren, 1896), p. 85-86.

practical experience to understand the course methods involved. These courses also were not open to women.³⁷⁸

MAC's general course catalogue for 1896-1897 reported that eighteen young men had taken advantage of the new dairy short course program during the previous winter term. Almost half of the students enrolled in the program were from southeast Michigan, though none were from Lenawee County.³⁷⁹ While the short course in dairy continued to be centered on the butter-making process, herd selection, and care, two new courses were added in dairy chemistry and bacteriology. Professor Charles E. Marshall of the University of Michigan Medical School came to MAC in 1896 to study bacteriology. Marshall's research concerning the role played by bacteria in processing milk into the marketable commodities of bottled milk, condensed milk, cheese, cream, ice cream, and butter gained worldwide acclaim.³⁸⁰

Smith expanded the butter-making short course in 1897, changing the name to "Creamery Course." The course catalogue description read as follows:

"Both experience and technical knowledge are necessary to the man who would successfully manage a creamery. Something of the former and much of the latter can be secured in this special course. The work will be adapted to the wants of the beginner as well as to those of the experienced butter-maker who has already served for one or more years in the factory."³⁸¹

³⁷⁸ *Catalogue, Officers and Students of the Michigan State Agricultural College, 1896* (Lansing, MI: Thompson and Van Buren, 1896), p. 85-86.

³⁷⁹ *Catalogue, Officers and Students of the Michigan State Agricultural College, 1896-1897* (Lansing, MI: Robert Smith Printing Co., 1896), p. 21.

³⁸⁰ William J. Bea, *History of Michigan Agricultural College and Biographical Sketches of Trustees and Professors* (East Lansing, MI: Agricultural College), p. 445.

³⁸¹ *Catalogue, Officers and Students of the Michigan State Agricultural College, 1896-1897* (Lansing, MI: Robert Smith Printing Co., 1896), p. 99.

The course included not only the technical aspects of making butter, but also business methods, daily work in the butter room, creamery mechanics, dairy chemistry, dairy bacteriology, milk production, and butter judging.³⁸²

That same year (1897), Smith offered for the first time a new short course: a four-week study in cheese making.

“The course in cheese-making extends over four weeks only. A competent instructor will be employed and under his guidance the class will spend the greater part of the day in the cheese room, engaged in making cheese. With this practical work there will be given lectures on dairy chemistry, dairy bacteriology, and the treatment of the herd and care of milk before delivery to the factory. The quality of cheese is dependent almost altogether on the skill of the maker. Every effort will therefore be put forth to train the students in the art of making a product that is agreeable to the taste, digestible, healthy, and that will not spoil if kept for an expectedly long interval after manufacture.”³⁸³

MAC had finally aligned itself with Sanford Howard’s thirty-five-year-old dream of making the cheese factory system the lynch pin to Michigan’s agricultural economy. While there were dozens of cheese factories statewide already in production by 1897, none of Michigan’s cheese makers had received formal classroom training. Until this point, cheese production had been based on experience or training by a master cheese maker, not “scientific education.” Nineteen young men completed the new cheese short course at MAC in 1897-1898; four were from Lenawee County: W. A. Beebe, Tipton; Porter McMillin, Ogden Station; George W. Smith, Seneca; and A. J. Whittaker of Hudson.³⁸⁴

³⁸² *Catalogue, Officers and Students of the Michigan State Agricultural College, 1896-1897* (Lansing, MI: Robert Smith Printing Co., 1896), p. 99-101.

³⁸³ *Catalogue, Officers and Students of the Michigan State Agricultural College, 1896-1897* (Lansing, MI: Robert Smith Printing Co., 1896), pp. 101.

³⁸⁴ *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1897-1898* (Lansing, MI: Robert Smith Printing Co., 1897), p. 22.

Other comments from the short course description provide a small glimpse into the state of Michigan's agriculture at the end of the nineteenth century.

"Farmers are at present suffering from the great decline in the price of their products. The cost of production in many cases exceeds the price realized in the market. They are forced to seek new lines of production better suited to their soil and climate, or to the market for which they cater. Under these conditions the demand for special short courses has been acute. To meet this demand the College has provided six special courses, viz: Dairy Husbandry, Creamery, Cheese-making, Live Stock Husbandry, Fruit Culture, and Floriculture and Winter Vegetable Gardening. The College does not offer special six-week (or four-week) courses to young women."³⁸⁵

With only a passing glance, women found themselves excluded from the new cheese short course program. The exclusion may not have been based on ability so much as accommodation for their gender. Parents of young women entering MAC's very gendered courses of study in 1897

"were assured beyond all reasonable doubt that their daughters would be placed in the careful charge of a conscientious matron who would assure the atmosphere of a regulated Christian home, with time for study, freedom from the dissipation of social life with every effort made to guard the young woman's health. Maintaining such conditions could only be achieved when the young woman boarded on campus under the watchful eye of the matron. Taking her meals in the large dining room and kitchen, which served not only as her learning laboratory, but also never compelled the young woman to go outside the building for her meals."³⁸⁶

Such an atmosphere would have been hard to control in a four-week course dominated by men.

With the exclusion of women from the short course on cheese making, MAC and Smith effectively changed the rules as to who could and could not make cheese in the factory system. Cheese, once made on Lucina Horton's kitchen table, could now only be

³⁸⁵ *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1897-1898* (Lansing, MI: Robert Smith Printing Co., 1897), p. 32-33.

³⁸⁶ *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1897-1898* (Lansing, MI: Robert Smith Printing Co., 1897), p. 107-113.

made by “scientifically trained” men. It would be almost twenty years before women would be allowed into dairy education at MAC.

During the academic year 1898-1899, thirteen young men participated in the cheese short course. Only two were from Lenawee County, Alba G. Preston and Frank M. Smith, both of Tipton.

Between 1898 and 1903 the description of the cheese-making course reads as follows:

“A special course in cheese-making will be given. Practical work at the cheese vat followed out along scientific lines with a reason for every detail of the operation is a feature of this course. Empirical methods are not taught so much as general principles, which the intelligent cheese-maker can apply to his own immediate conditions. The use of the rennet test for determining the ripeness of milk, the use of starter to aid in the control of fermentation, the use of the curd test for the detection of impurities in the milk, and the use of the Babcock test to determine the loss of butter fat, are among the points given especial attention in the daily operations in the cheese room. Accompanying and supplementing this practice in cheese-making, work will be given in the laboratory in testing milk. The use of the lactometer and Babcock test for the detection of watering and skimming milk will be taught and the practical application of the test to every-day cheese-factory operation will be emphasized.

“Lectures and demonstrations in bacteriology, showing the relation of bacteria to the different changes taking place in milk, how to combat harmful agencies and cultivate the helpful ones, will be given. The subject of chemistry of milk and its care upon the farm will receive attention. Every effort is made to make this course just as practical and helpful as it can be made.”³⁸⁷

A comparison of the short course offerings in cheese making for the first three years of operation at MAC is indicative of the rapid growth of scientific knowledge and social consensus during the last years of the nineteenth century. The complexity of making cheese remained the same, but what had changed was the amount of “scientific

³⁸⁷ *Catalogue, Officers and Students of the Michigan State Agricultural College, 1898-1899* (Lansing, MI: Robert Smith Printing Co., 1898), p. 93.

knowledge” added to its production, along with society’s accepted view of who would be considered qualified to make cheese in the future.

In MAC’s first short course offering, cheese making was still more craft than science. “The quality of cheese is dependent almost altogether on the skill of the maker,” noted the author of the short course catalogue.³⁸⁸ By its second year (1898), a list of newly developed scientific tests appeared in the cheese short course description. The production of cheese was moving away from requiring a craftsman’s skill toward a more regulated and predictable, scientifically controlled environment. Short course students would learn the use of the Babcock Test and the Wisconsin Curd Test, and the chemical makeup of milk. Within that same short period of time (the third year), the more scientific management of the cheese factory itself was emphasized in the short course.

Scientific training had quickly replaced the craft of cheese making. Young men graduating from MAC’s cheese short course could now enter the factory system without the aid of instruction by a master cheese maker. Such knowledge, SBA believed, would not only create a more skilled cheese maker and a better quality product demanding higher market prices, but also a safer, more uniform product for public consumption. MAC’s scientific training would move cheese making from commercialization to industrialization in the twentieth century.

Even with the new scientific principles in place in MAC’s cheese-making short course, Michigan agriculturalists still debated the production methods necessary in making what by then everyone was calling “Soft Michigan” cheese. At the February 1900 meeting of the Michigan Dairymen’s Association, Dairy and Food Commission Special

³⁸⁸ *Catalogue of the Officers and Students of the State Agricultural College of Michigan, 1897-1898* (Lansing, MI: Robert Smith Printing Co., 1897).

Inspector E. A. Haven, of Bloomingdale, Michigan, and Michigan Dairymen's Association member Harry B. Jolliffe, of Plymouth, Michigan, made short presentations addressing the topic "What is Michigan Cheese: The Essentials in Its Production." Haven begins the discourse with a rebuttal to the critics of "Soft Michigan" cheese.

"In a report of the Wisconsin Experiment Station it is stated that the trouble experienced by some (Wisconsin) cheese makers is a porous texture in their cheese, showing mechanical holes and without a distinct acid flavor. Now that is all right for their business, but to judge us (Michigan) by the same standard is both erroneous and unfair." Haven continued, "That the judge at the World's Fair (Chicago) came to the Michigan cheese as if he were at sea without a compass. The judge's ideal was cheddar, and that the Michigan farmers appeared to be exhibiting rolls of pancake batter. Poor fellow, he had never before seen a genuine cheese and it surprised him."³⁸⁹

"Soft Michigan" cheese appeared to be quite unique, a product that only the residents of Michigan loved.

"I tire," said Haven to the attentive audience, "of the continual harping about Michigan cheese being soft and full of holes. If it was not soft and porous it would not be Michigan cheese. If you make Michigan cheese, then make Michigan cheese; let people call them what they wish, but if you make cheddars, then sell them as such and keep away from dealers who want the other kind. If you have any respect for your own reputation or that of our State, don't try a combination of the two systems; you will surely fail. You can make cheddars in Michigan, but you cannot make Michigan cheese by the cheddar method."³⁹⁰

Near the end of the debate, which had now opened to the audience, MAC's Clinton D. Smith made several remarks on "The Future of Michigan Cheese."

"I can't teach all the different ways of manufacturing cheese which have been advocated here today," Smith said. "I can teach this much: that we must have clean milk; that it is safer, during the hot weather of summer, to use the cheddar process, so far as it is necessary. We must also learn to utilize the milk that may have partly soured on its way to the factory. The cheese class, beginning

³⁸⁹ S. J. Wilson, *Sixteenth Annual Report of the Michigan Dairymen's Association* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1900), p. 75-81.

³⁹⁰ S. J. Wilson, *Sixteenth Annual Report of the Michigan Dairymen's Association* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1900), p. 75-81.

the 14th of February at the college, will have to be taught how to make Michigan cheese. Mr. Haven says that you must teach the Michigan process to your boys. Let them make Michigan cheese, but they must understand the cheddar process too. Then, if by some dire mishap, they should have to move out of the State, they would not lose their vocation.”³⁹¹

Smith went on to suggest that the Michigan Dairymen’s Association cheese makers meet to construct a uniform process for the manufacture of “Soft Michigan” cheese. Up until that point, there had not been a uniform process for making it. The only process known was that which had evolved out of the home dairy system, primarily dominated by women, some forty years before.

In comparing Michigan’s cheese to other cheese made in the Midwest, Haven loosely gives a description of “Soft Michigan” cheese as having holes of varying size, thus making the cheese appear higher, though weighing less and of a softer texture than cheddar. “The essentials in producing Michigan cheese are easily stated, but most difficult to obtain,” said Haven.

“My observation,” Haven continued, “has been that in the manufacture of what is known as Michigan cheese it is necessary to use only pure, untainted milk. The second essential is a thorough knowledge on the part of the maker as to his occupation. While some men are successful in their work, without any particular educational ability, we know that a study of the principles that underlie our business calling will add to our efficiency. Tact, gumption and education form a good tripod on which to place our labors.”³⁹²

Despite the short existence of the cheese course at MAC, the question of “What is Michigan Cheese?” and how to produce it remained unanswered. “Tact, gumption, and education,” were all that Haven could conclude after four years. In a more personal

³⁹¹ S. J. Wilson, *Sixteenth Annual Report of the Michigan Dairymen’s Association* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1900), p. 79-81. Smith was Dean of the Short Courses, Superintendent of Institutes, and College Extension Lecturer. *Catalogue, Officers and Students of the Michigan State Agricultural College, 1900-1901* (Lansing, MI: Michigan Agricultural College, 1901), p. 6.

³⁹² S. J. Wilson, *Sixteenth Annual Report of the Michigan Dairymen’s Association* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1900), p. 75-81.

attempt to understand the production of “Soft Michigan” cheese, Haven decided to take the cheese short course for himself. He is listed in the college course catalogue in 1904-1905. What new insights into the production of “Soft Michigan” cheese Haven may have gained may never be known.

As offered during the winter term of 1903-1904, two significant changes to the cheese-making short course were noted in the catalogue. For the first time, the cost of the program was mentioned in the course description. “The expenses of these courses are, besides board and railroad fare, the matriculation fee of \$2.50 and the incidental fee of \$2.50. For non-residents of this state, a tuition fee of \$5.00 will be charged.”³⁹³ Supplemental course booklets were sent to those interested, making the full course description in the college catalogue less important. No entrance exam was required.

Secondly, according to the course description, women were no longer allowed to take any of the short courses. Apparently MAC’s position on women in the primarily male dominated short course in 1897 had forced a reiteration of the SBA’s views.

“The College does not offer special courses to young women. The regular Women’s Course is carefully planned, and experience shows that most young women derive more benefit from one or two years of this systematic, logical training than from a longer time in special work. However, a young woman of previous training and maturity of judgment may enter as a special student and take cookery, sewing, and any other subjects for which she is prepared. She should plan to remain not less than two years in order to acquire good practical training.”³⁹⁴

The logic, according to the authors, Blair and Kuhn, of MAC’s centennial history, lay more in public opinion than in academic aptitude. In addition to being banned from

³⁹³ *Michigan State Agricultural College, Catalogue of Officers and Graduates, 1903-1904* (Lansing, MI: Michigan State Agricultural College, 1904), p. 40.

³⁹⁴ *Michigan State Agricultural College, Catalogue of Officers and Graduates, 1903-1904* (Lansing, MI: Michigan State Agricultural College, 1904), p. 40.

the short course in cheese making, women were not allowed to take classes in crop production, stockbreeding, veterinary medicine, or general agriculture. "One can never be quite sure that the majority of the women were actually happy that these classes were taken away from them. Nevertheless, public opinion and possibly their future husbands' opinion still played a part."³⁹⁵

MAC's 1903-1904 course catalogue noted for the first time the instructor of the cheese-making short course as Emerson B. DeGroat, of Brant, Michigan.³⁹⁶ DeGroat had taken the cheese-making short course two years before.³⁹⁷ After a lapse of several years, the first and only student from Lenawee County was named in the course catalogue: Fred Bryan, from Canandaigua.³⁹⁸

The popularity of the six-week dairy short course seemed to be growing rapidly by the 1904-1905 academic year, though twenty-six students enrolled in the four-week cheese short course. The instructor that session was Frank Hosmer, who would later take an appointment to be a Dairy and Food Commission cheese inspector. Among the twenty-six students, two were from Lenawee County: Willis A. Burger of Clayton and Manley Kime of Medina.³⁹⁹

The 1905-1906 winter short course saw a sharp decline in cheese making, but a steep jump in the number of students enrolled in the creamery course. Between the creamery course and the cheese course, seventy eager Michigan farmers participated,

³⁹⁵ Lyle Blair and Madison Kuhn, *A Short History of Michigan State* (East Lansing, MI: Michigan State College Press, 1955), p. 22.

³⁹⁶ *Michigan State Agricultural College, Catalogue of Officers and Graduates, 1903-1904* (Lansing, MI: Michigan State Agricultural College, 1904), p. 9.

³⁹⁷ *Michigan State Agricultural College, Catalogue of Officers and Graduates, 1901-1902* (Lansing, MI: Michigan State Agricultural College, 1902), p. 25.

³⁹⁸ *Michigan State Agricultural College, Catalogue of Officers and Graduates, 1903-1904* (Lansing, MI: Michigan State Agricultural College, 1904), p. 31-32.

³⁹⁹ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1904-1905* (Lansing, MI: Michigan State Agricultural College, 1905), p. 37.

thirteen in the cheese course.⁴⁰⁰ Listed among the participants of the six-week creamery course that year was S. W. Horton, Fruit Ridge, Michigan. Samuel W. Horton was the youngest child and second son of George Byron Horton.⁴⁰¹ Already well studied in the manufacture of cheese by 1905, young Horton was preparing himself to follow in the footsteps of his father and grandfather. Horton would graduate from MAC in 1908 with a full four-year degree in agriculture.

George Byron Horton sent his elder son, Norman Bradish Horton, to MAC as well. Three years before, in 1902, the younger Horton graduated with a degree in agriculture. His thesis, titled “The Controlling of Gassy Cheese Milk by Starters,” explored the relationship of the size of the hole created by the internal gases of the cheese with its external quality through the use of a starter.⁴⁰² A whopping eight pages in length, with illustrations, the thesis is remarkable only in the fact that the elder Horton was a man interested enough in “scientific agriculture” to send his two sons for more training in a business that was beginning to change more rapidly than he himself could have imagined. Horton was preparing his sons to take over his fast-growing empire.

Nineteen Michigan farmers participated in the four-week cheese short course in 1906-1907, although only one was from Lenawee County: Albert A. Dewey of Addison.⁴⁰³ Celebrating MAC’s fiftieth year, the student population numbered more than

⁴⁰⁰ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1905-1906* (Lansing, MI: Michigan State Agricultural College, 1906), p. 37.

⁴⁰¹ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1905-1906* (Lansing, MI: Michigan State Agricultural College, 1906), p. 33.

⁴⁰² Norman B. Horton, “The Controlling of Gassy Cheese Milk by Starters.” Master’s thesis, Michigan Agricultural College (Michigan State University), East Lansing, MI, 1902.

⁴⁰³ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1906-1907* (Lansing, MI: Michigan State Agricultural College, 1907), p. 37.

one thousand. Almost two hundred of those students were enrolled in some type of short-course program.⁴⁰⁴

The greatest decline in numbers for the cheese short course occurred during the academic year 1907-1908. Only eight students participated in the four-week cheese short course that term with only one student coming from Lenawee County, Allen R. Jackson of Adrian.⁴⁰⁵ Of the 206 students enrolled in short course programs that academic year, 119 were in the six-week general agriculture course. The shift from dairy and its various forms of production to a more general study and use of agricultural knowledge was beginning and would continue throughout the remainder of the twentieth century. Even the description for the cheese short course was brief: "Cheese Making—The emphasis in this course is on the art of making cheese; dairy chemistry; bacteriology; care of milk on the farm."

Robert S. Shaw was the new dean of the Special Course program that year.⁴⁰⁶ Shaw, a Canadian, later became the Dean of Agriculture and president of MAC. Clinton D. Smith, former dean of the Special Course, resigned in 1908 to become the president of Escola Agricola, an agricultural college in Piracicaba, San Paulo, Brazil. Smith returned to his native New York in 1913.⁴⁰⁷

Enrollment remained small in the cheese short course during the academic year of 1908-1909, with the addition of only one student. None of the students that year was

⁴⁰⁴ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1906-1907* (Lansing, MI: Michigan State Agricultural College, 1907), p. 39.

⁴⁰⁵ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1906-1907* (Lansing, MI: Michigan State Agricultural College, 1907), pp. 42-43.

⁴⁰⁶ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1907-1908* (Lansing, MI: Michigan State Agricultural College, 1908), p. 82.

⁴⁰⁷ William J. Beal, *History of Michigan Agricultural College and Biographical Sketches of Trustees and Professors* (East Lansing, MI: Agricultural College), p. 436.

from Lenawee County or southeast Michigan. MAC's total student population was 1,370 in 1909.⁴⁰⁸

The general short course program, still advertised as being the best option for those students not wishing to take a full four-year degree in the agricultural sciences, had risen to an enrollment of 287 by the 1909-1910 academic year. The majority of the students were studying general agriculture, while only four were enrolled in the cheese short course. None of those students was from Lenawee County.⁴⁰⁹

By 1910, student enrollment at MAC reached 1,570. Only five students participated in the cheese short course that year, while 208 received training in general agriculture studies.⁴¹⁰ Almost complete by the end of the first decade of the twentieth century was the transition of student interest to a more general agricultural short course degree, which was held as having a greater value than training in a more specific area such as cheese making. MAC's six-week short course in general agricultural placed more emphasis on the modernization of the family farm, such as use of tractor technology, silo construction, a business model of farm management and, in some cases, electrification (near more metropolitan areas) of such things as milking machines.

MAC Students in Lenawee County

To understand the inroads being made into the lives of Michigan's agricultural communities by MAC's campaign for scientific training, one need only examine the

⁴⁰⁸ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1908-1909* (Lansing, MI: Michigan State Agricultural College, 1909), pp. 47 and 49.

⁴⁰⁹ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1909-1910* (Lansing, MI: Michigan State Agricultural College, 1910), pp. 51 and 53.

⁴¹⁰ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1910-1911* (Lansing, MI: Michigan State Agricultural College, 1911) p. 209.

reports of Dairy and Food Commission inspector Charles O. Bradley in 1905. As part of his cheese factory inspection tour, the law required Bradley to note the experience and training of the resident cheese maker at each factory. Of the twenty-six cheese factories on his Lenawee County route, Bradley noted that four of the cheese makers were trained at MAC. All the men had taken the four-week cheese-making short course at the college. The remaining twenty-two cheese makers, he noted, were self-taught, most having at least ten years of experience, being trained in either Michigan or Ohio.

Though he was not listed among the first students of the cheese-making short course, A. B. Greer related to Bradley that he had eight years of cheese-making experience, having completed the short course in 1897. Greer was a salaried employee of the Hudson Centre Cheese Factory owned by Michael E. Dillon. The factory had been built about 1880. Greer handled the milk of two hundred cows and thirty-six patrons. The season in 1905 was nine months long. Factory production that year was twenty-five hundred cheeses at forty pounds each.⁴¹¹ Little else is known about A. B. Greer's life in Lenawee County.

Hudson Centre was three miles east of Hudson on Beecher Road, now M-34. Michael Dillon's farm was located a mile due south of the tiny community on Section Twenty-eight of Hudson Township. Hudson Centre had a Grange Hall, a school, and a cheese factory.⁴¹² The community's most famous resident was Will Carleton, twentieth century poet laureate of Michigan. By 1905, the Dillon family had lived for two generations on their 130-acre farm in Hudson Township. Michael and his wife Mariette

⁴¹¹ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

⁴¹² *Atlas of Lenawee County* (Publisher unknown, 1912). Collection of the Library of Michigan, Rare Book Room, Lansing, MI.

had two children at home, owned a horse, had Bell telephone service, and were subscribers to the *Farm Journal*, a popular farm-related periodical, which documented the lives of its patrons in the *Farm Journal Illustrated Rural Directory of Lenawee County, Michigan 1916-1921*.⁴¹³

Two of the MAC cheese making short-course graduates on Bradley's inspection route in 1905 had six years of experience. L. R. Connors was from the community of Roots, Michigan in Jackson County. According to the list of short course graduates, Connors was in the class of 1900-1901.⁴¹⁴ Connors went to work making cheese soon after completing the short course in 1905; Inspector Bradley reported that he was both the owner and the cheese maker at the Onsted Cheese factory in Onsted, Michigan, working on commission.

At the time, the Onsted Cheese factory was located in an "old building" that Connors had remodeled and opened in March 1905. He handled the milk of forty patrons who owned two hundred cows. The Onsted Cheese factory operated for eight months in 1905. That first season, Connors' production was not far enough along for Bradley to note in his reports.⁴¹⁵ Still making cheese in 1916, Connors had put down roots in Lenawee County. Some ten years after Bradley's factory inspection, the *Farm Journal Illustrated Rural Directory of Lenawee County* shows Connors as having a wife, Mary, and one child at home, owning a house and lot and one cow in Cambridge Township.⁴¹⁶

⁴¹³ *Farm Journal Illustrated Rural Directory of Lenawee County, Michigan, 1916-1921* (Philadelphia, PA: Wilmer Atkinson Co., 1921), p. 60.

⁴¹⁴ *Catalogue, Officers and Students of the Michigan State Agricultural College, 1900-1901*. Lansing, MI: Michigan Agricultural College, 1901.

⁴¹⁵ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

⁴¹⁶ *Farm Journal Illustrated Rural Directory of Lenawee County, Michigan, 1916-1921* (Philadelphia, PA: Wilmer Atkinson Co., 1921), p. 51.

The other MAC cheese-making short course graduate with six years experience was Fred Bryan, from Medina, Michigan, class of 1903-1904. After college, Bryan returned to his family farm.⁴¹⁷ He worked on commission for C. C. Colvin at Colvin's Medina Cheese Factory, which had been built in 1865. Bryan handled the milk from four hundred cows owned by thirty-seven local patrons. The milk-processing season in 1905 was nine months long at the Medina Cheese factory, during which Bryan produced six thousand cheeses weighing thirty pounds each.⁴¹⁸ The cheese industry in Lenawee County had begun its gradual decline by the time Bryan is listed in the *Farm Journal Illustrated Rural Directory of Lenawee County* in 1916. By then, Bryan had left C. C. Colvin's employ and was working as a laborer on a tenant farm in Medina Township. He had a wife, Addie, and one child living at home.⁴¹⁹

The last of the MAC graduates that Bradley encountered on his 1905 inspection tour was Willis A. Burger of Clayton, Michigan. Burger had graduated in 1904-1905 from the cheese-making short course and he had three years of experience. He worked on commission for C. C. Colvin at the Clayton Cheese Factory, which had been built in 1899. The Clayton Cheese Factory was in operation for eight and half months in 1905; during this time, Burger handled the milk of two hundred cows belonging to twenty-nine patrons. The factory's output for that year was three thousand cheeses weighing fifty

⁴¹⁷ *Michigan State Agricultural College, Catalogue of Officers and Graduates, 1903-1904* (Lansing, MI: Michigan State Agricultural College, 1904).

⁴¹⁸ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

⁴¹⁹ *Farm Journal Illustrated Rural Directory of Lenawee County, Michigan, 1916-1921* (Philadelphia, PA: Wilmer Atkinson Co., 1921), p. 40.

pounds each.⁴²⁰ *The Farm Journal Illustrated Rural Directory of Lenawee County* does not list Burger among its rural resident subscribers in 1916.

Not listed among the Lenawee County graduates of the cheese-making short course are the two Horton brothers, Norman and Samuel, both of whom were working for their father, George Byron Horton, in 1905. The brothers may not have been listed for two reasons; one, both men were pursuing or had received a four-year agricultural degree, and two, their father was not employing them as cheese makers at any of his many factories. While the senior Horton, as has already been noted, believed strongly in the use of “scientific agriculture” in all the operations of his vast estate, his sons were still not prepared to join the family business. Nonetheless, this brings the total of documented MAC graduates working in Lenawee County in 1905 to six.

While this is only a small portion—about twenty-three percent—of Lenawee County’s cheese makers, it illustrates the significant hold that the new “scientific agriculture” had taken on the dairy community. One MAC graduate was confident enough to own and operate his own cheese factory, the second largest owner of cheese factories in the county employed two more, and another graduate was just beginning to show his potential. The largest cheese manufacturer in Lenawee County, George Byron Horton, employed his two sons. MAC, at the beginning of the twentieth century, had finally fulfilled Sanford Howard’s fifty-year-old dream of a Michigan agricultural economy based on dairy production, which Dairy and Food Commission Inspector Charles O. Bradley—ever the consummate record keeper for the state—duly noted.

⁴²⁰ 1905 State of Michigan Cheese Inspector Report, Dairy and Food Commission. Archives of Michigan, Lansing, MI.

VI

The Decline of “Soft Michigan” Cheese

After reaching its production zenith during the first decade of the twentieth century, the local commercial manufacture of “Soft Michigan” cheese would steadily decline over the next fifteen years, particularly in southeast Michigan and Lenawee County. Several factors would conspire to bring about this decline, including loss of principal manufacturers (primarily due to age); government regulation; a shift in agricultural education at MAC; job creation in urban settings that drained the rural work force; larger, more industrialized dairy plants that benefitted from government contracts during World War I; and greater public demand for cleaner, safer dairy products.

Cheese Production Continues at MAC

Indicative of the educational shift at MAC was a need by the student population for a longer and more general short course, spread out over two years, versus a more specific four-week or six-week short course during winter term. While not a full four-year degree in agriculture, the two-year short course gave students the general twentieth century farming skills they needed without the longer-term financial investment. MAC’s student population reached 1,715 students in 1911-1912, with 234 taking the general two-year agriculture short course. Only three students enrolled in the four-week cheese-making short course offered at MAC during that same year.⁴²¹

⁴²¹ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1911-1912* (Lansing, MI: Michigan State Agricultural College, 1912), p. 213.

For the first time, no course description was given in the college's 1912-1913 catalogue for the four-week cheese-making short course—no one signed up. Noting the shift in student interest from the more specific to the general, MAC faculty moved the cheese-making short course out of the winter term and into the four-year Dairy Husbandry program. Charles Henry Dear was hired as the special instructor in cheese making. Dear had been a Dairy and Food Commission cheese inspector in 1905.⁴²² Two hundred and forty-four students received instruction in the general agriculture short course that year, while the total enrollment for the college dipped slightly to 1,647.⁴²³

Dear reintroduced the cheese-making short course during the winter term in 1913-1914.⁴²⁴ The number of students enrolled in it numbered four; none was from Lenawee County. With war clouds rumbling in Europe, the 1913-1914 academic year saw the college's enrollment reach just over two thousand students; almost a quarter of those were enrolled in a short-course program of one type or another.⁴²⁵

That same year (1913), the Dairy Department relocated into a new and larger dairy building at the north end of Farm Lane.⁴²⁶ Housed in the new building would be the equipment of the industrialized factory system with space for students to observe dairy operations and participate in them. Within three years, electric milking machines and new

⁴²² *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1912-1913* (Lansing, MI: Michigan State Agricultural College, 1913), p. 15. 1905 State of Michigan Cheese Inspector Report, Food and Dairy Commission. Archives of Michigan, Lansing, MI.

⁴²³ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1912-1913* (Lansing, MI: Michigan State Agricultural College, 1913), p. 224.

⁴²⁴ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1913-1914* (Lansing, MI: Michigan State Agricultural College, 1914), p. 16.

⁴²⁵ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1913-1914* (Lansing, MI: Michigan State Agricultural College, 1914), p. 234.

⁴²⁶ Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), p. 126.

cement silos would be added to the Farm's operations.⁴²⁷ MAC was on the cutting edge of dairy science, technology, and education.

Since the passage of the Pure Food and Drug Act of 1906, public demand for a safer food supply was gaining ground. One of the ways to ensure such public demands were met was to create "uniform and constantly processed" foods—products that could be produced over and over again using the same methods. MAC's Clinton D. Smith had discussed creating a uniformly made cheese product with the Michigan Dairymen's Association earlier in the decade without reaching any conclusions as to how to achieve this goal. Now, with access to MAC's scientific methods, the question was raised again at the February 1913 annual meeting of the Michigan Dairymen's Association. Association member C. V. Jones led the lively debate on the value of Canadian versus American cheese:

"If you are going to have a quantity of cheese that will meet with the approval of the consumer it must be uniform. If you are to have a good market for your cheese you must have a good quality of cheese, and in order to have good quality of cheese, you must have uniformity, to have uniformity you must have a system. As I have gone through the State of Michigan, I have met some fine fellows and found you were making some good cheese, but at the same time you are not all making the type that the trade demands."⁴²⁸

What Jones' tour through the state also revealed was that not all of MAC's students were practicing what they had been taught.

"I met a man last week who said he took the cheese makers' course at East Lansing. I was at his factory about two o'clock in the afternoon and I asked him how long his curd had been in the whey: he said, 'About five hours and 20 minutes.' I asked him how long the day before and he

⁴²⁷ *Fifty-fifth Annual Report of the Secretary of the State Board of Agriculture for the State of Michigan and the Twenty-ninth Annual Report of the Experiment Station, July 1, 1915 to June 30, 1916* (Lansing, MI: Wynkoop, Hallenbeck, Crawford, Co., State Printers), p. 52.

⁴²⁸ George H. Brownell, *Twenty-Ninth Annual Report of the Michigan Dairymen's Association, July 1, 1911 to June 30, 1917* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1917), pp. 245-248.

said, 'Well, it was off at 11 o'clock yesterday.' I asked him why he did not use the acidimeter, as he knew at East Lansing they obtained the same results every day with the use of the acidimeter. The fact is that, knowing the advantages of using the acidimeter, still he uses his nose, and what are we going to do with such a man?"⁴²⁹

Jones' revelation re-opened the age-old questions of whether cheese production was a craft or a science and whether a system could ever be taught to make a "uniform" cheese.

"If you are to have a uniform quality of cheese you must have a system, and that is something Michigan cheese makers lack. When a man says, 'I set my vat by my nose and I add my starter according to what my nose tells me,' I know that he cannot rely on his nose for the same reason that a man's health is not the same from day to day.

Many of the men who need this instruction are not here. The men who are here are the best thinking men we have and the men who are endeavoring to fit themselves to do better."⁴³⁰

In his remarks, Jones alluded to the next phase of Michigan cheese manufacturing: "uniformity." Product uniformity would begin to move Michigan's cheese industry away from the commercial factory system and into the highly sanitized and industrialized factories of the mid-twentieth century. The end of the small local commercial cheese factory was near.

While no instructor is listed for MAC's cheese-making short course in 1914-1915, five students took advantage of its offerings. None of the students was from Lenawee

⁴²⁹ George H. Brownell, *Twenty-Ninth Annual Report of the Michigan Dairymen's Association, July 1, 1911 to June 30, 1917* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1917), pp. 245 -248.

⁴³⁰ George H. Brownell, *Twenty-Ninth Annual Report of the Michigan Dairymen's Association, July 1, 1911 to June 30, 1917* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1917), pp. 245 -248.

County.⁴³¹ Almost 350 students took the general two-year agricultural short course that year.⁴³²

In 1915, MAC hired its first woman instructor in the four-year Dairy Husbandry program, Alison Ransford. The cycle was now complete; a woman had found herself back in the production of cheese. One of four instructors in the department, Ransford received a salary of \$770. Her male counterparts received salaries ranging from \$900 to \$1,200 per year.⁴³³ There is no indication that Ransford was the cheese-making short course instructor as well. Three students enrolled in the four-week cheese-making course during the winter term of 1915-1916. None of them was from Lenawee County.⁴³⁴ This term would prove to be the last short course taught in the manufacture of cheese for the local commercial cheese factory market.

Ransford continued to be an instructor in the larger degreed dairy program until 1918, when her name appears in an article for the November *Bulletin of the Woman's National Farm and Garden Association*.⁴³⁵ By then, she was supervising cheese production on the State of Illinois' "training farm." MAC's Dairy Husbandry program would continue to grow, but emphasis on the production of cheese as part of the local commercial factory system was coming to an end. With the aid of their new dairy

⁴³¹ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1914-1915* (Lansing, MI: Michigan State Agricultural College, 1915), p. 236.

⁴³² *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1915-1916* (Lansing, MI: Michigan State Agricultural College, 1916), p. 239.

⁴³³ *Fifty-sixth Annual Report of the Secretary of the Michigan State Board of Agriculture, 1916-1917*. (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1917), p. 29.

⁴³⁴ *Catalogue, Officers and Students of the Michigan State Agricultural College for the Year 1915-1916* (Lansing, MI: Michigan State Agricultural College, 1916) p. 238.

⁴³⁵ Laura C. Rosenstone, "Illinois Training Farm," *Bulletin of the Woman's National Farm and Garden Association*, Vol. 6. No. 5 (November 1918), p. 4.

operations building, MAC faculty would turn their skills toward an even more scientific and industrially based model of cheese production.

Cheese Politics

Compared to other yearly reports of the Dairy and Food commissioner, Arthur C. Bird's 1905 report to the governor of Michigan was relatively brief. However, near the end of his report, Bird mentions that the department's recent reorganization had brought several "new lines of work," including the inspection and supervision of city milk supplies; systematic inspection of creameries and cheese factories, including sources of supply; and the institution of a state educational scoring contest for dairy products, among other items.⁴³⁶ The scoring contest was a pet project of Michigan's Republican governor (and, not coincidentally, leading cheese manufacturer) Fred M. Warner.

First announced by Bird in 1905 in his report to Governor Warner, the educational scoring test was designed to "better the quality and increase the uniformity of the butter and cheese products of the State."⁴³⁷ Both Commissioner Bird and Governor Warner hoped the contest would spark interest among the dairymen of Michigan to create a better product. The contest encouraged creameries, cheese factories, and farm dairies to send samples of their products to the state Dairy and Food Department in Detroit each month, where they would be scored. The state analyst would determine the percentage of moisture and casein found in the butter samples. Both Bird and Warner were hoping that the scoring contest would give Michigan's commercial cheese manufacturers a better

⁴³⁶ *Twelfth Annual Report of the Dairy and Food Commissioner of the State of Michigan, Year Ending June 30, 1905* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1905), p. 7.

⁴³⁷ *Twelfth Annual Report of the Dairy and Food Commissioner of the State of Michigan, Year Ending June 30, 1905* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1905), p. 19.

way to define and classify their product for marketing purposes. Each participant's score would be kept on file with the department as well as being compared to all other cheese manufactured in the state.

The first scoring contest was held on April 29, 1905 at the Webb Cold Storage plant in Detroit with fifty-seven tubs of creamery butter, two jars of dairy butter, and twenty-nine cheeses being tested.⁴³⁸ Contestants were given a number so that each entry would be scored blind by the judge. The official scorer was E. I. Burrige of Cleveland, Ohio, with Michigan's Dairy and Food Commission inspector Helmer Rabild acting as clerk. The highest scoring butter was ranked ninety-seven and the lowest eighty-one, while the highest scoring cheese was rated ninety-six and the lowest seventy-five. The results of the contest were published each month in the *Michigan Farmer* and in other publications of interest to the state's dairymen. In the spirit of leading by example, Governor Warner's cheese factories entered the contest each month, consistently scoring in the ninety or higher point range. At first, very few of the cheese manufacturers in Lenawee County participated, though by the end of the season, C. C. Colvin and George Horton Rorick had submitted samples of their cheese.⁴³⁹ Both cheese factories tied for second place with a score of ninety-seven. Conspicuously absent from the list were samples from any of the cheese factories owned by George Byron Horton.

Not only did the scoring contest give Michigan cheese manufacturers something to aim toward in regard to quality, but it also gave them a much-needed classification system. Before the development of the contest, most all of Michigan's cheese had been classified as cheddar, which in the final analysis it was not. After consulting with a

⁴³⁸ *Twelfth Annual Report of the Dairy and Food Commissioner of the State of Michigan, Year Ending June 30, 1905* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1905), p. 20.

⁴³⁹ *Michigan Farmer*, "The September Educational Scoring Test" (October 4, 1905), p. 294.

number of leading cheese manufacturers and makers, the Dairy and Food Commission declared that there were at least three individual classes of cheese made in Michigan: “Soft Michigan,” “Michigan,” and “Cheddar.”⁴⁴⁰

Why was Michigan’s governor so interested in the state’s cheese production? Very simply, he owned the largest number of cheese factories in the state—thirteen by 1907.⁴⁴¹ George Byron Horton, who owned the largest number in Lenawee County, had only seven.⁴⁴²

Governor Fred M. Warner climbed to his post from humble beginnings. He was born Frederick Maltby in England in 1865.⁴⁴³ At the age of seven months, he was indentured to his adoptive parents, P. Dean and Rhoda Warner of Farmington, who had been unable to have children of their own. At the age of fifteen, Fred Warner was sent to MAC, where he lasted one semester. He returned home to work in his father’s store. The elder Warner taught his adopted son the fine points of the family business, both that of being a merchant and that of being a political leader. P. Dean Warner had already served in the Michigan legislature, becoming Speaker of the House in 1864 and 1866. He had also served as a delegate to the 1867 state Constitutional Convention.⁴⁴⁴

In addition to his own mercantile business in downtown Farmington, P. Dean Warner had an interest in banking and several other local businesses. When an

⁴⁴⁰ *Twelfth Annual Report of the Dairy and Food Commissioner of the State of Michigan, Year Ending June 30, 1905* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1905), p. 20.

⁴⁴¹ Jean M. Fox, “I went to the People...” *Fred M. Warner, Progressive Governor* (Farmington Hills, MI: Farmington Hills Historical Commission, 1988), p. 376.

⁴⁴² *Twelfth Annual Report of the Dairy and Food Commissioner of the State of Michigan, Year Ending June 30, 1905* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1905), p. 94. List of registered cheese factories in Lenawee County.

⁴⁴³ Jean M. Fox, “I went to the People...” *Fred M. Warner, Progressive Governor* (Farmington Hills, MI: Farmington Hills Historical Commission, 1988), p. 7.

⁴⁴⁴ Jean M. Fox, “I went to the People...” *Fred M. Warner, Progressive Governor* (Farmington Hills, MI: Farmington Hills Historical Commission, 1988), p. 4.

opportunity came in 1889 to buy a failed cheese factory in Farmington, Warner bought the business and gave it to his son. The elder Warner taught his son this business, too. In 1906, Fred M. Warner, by then governor of Michigan, described this experience to a reporter:

“We had a store in Farmington where farmers took milk for a cheese man on Cass Street in Detroit. He failed. I was fortunate in getting a fine cheese-maker from Canada. I went out to drum up trade. It was tough work. Really, in the first two years I worked harder to get started than in all my life since. Prices were close, competition sharp. Had I not been lucky enough to get a good cheese maker, I would have failed.”⁴⁴⁵

By 1900, the manufacture of cheese had become the principal business in Farmington and the surrounding area. Warner’s factories were producing ten thousand boxes of cheese (450,000 pounds) per day.⁴⁴⁶ Some fifteen years later, in 1915, Warner consolidated his factories under the name of Warner Dairy Company, selling his products under the name of Cloverland Farm, still a recognized brand in southeast Michigan today.⁴⁴⁷ Near the end of those fifteen years of production, Warner’s cheese factories were selling over ten million pounds of cheese annually.

Warner was elected Michigan’s Secretary of State while serving as president of the Michigan Dairymen’s Association, an office he held for more than a decade. Keenly interested in the latest scientific practices and technology in the dairy industry, he used his public platforms to advance the state’s dairy industry as a whole. Responding to an article in the *Michigan Farmer* in May 1906, Warner notes that he was the first dairy

⁴⁴⁵ Jean M. Fox, “I went to the People...” *Fred M. Warner, Progressive Governor* (Farmington Hills, MI: Farmington Hills Historical Commission, 1988), p. 373.

⁴⁴⁶ Jean M. Fox, “I went to the People...” *Fred M. Warner, Progressive Governor* (Farmington Hills, MI: Farmington Hills Historical Commission, 1988), p. 375.

⁴⁴⁷ Jean M. Fox, “I went to the People...” *Fred M. Warner, Progressive Governor* (Farmington Hills, MI: Farmington Hills Historical Commission, 1988), p. 380.

farmer in the state to milk his cows by machine. A small gasoline engine powered the vacuum pump, which worked in a sucking motion much like a calf's mouth to drain the cow's udder. The machine could milk two cows at a time. Warner anticipated this new machine would replace five of his eight farmhands.⁴⁴⁸

Because of the huge volume of cheese being produced in the Farmington area, the Detroit Urban Railway Company built a spur to Warner's factory, allowing him to experiment with refrigerated rail car technology. The *Farmington Enterprise* reported that Warner's new refrigerated rail car was "the only car of its kind in the country." It incorporated twenty feet of brine-filled pipe near the ceiling of the car, which would keep the temperature cool at all times—an early, successful experiment with air-conditioning.⁴⁴⁹

Ever vigilant in ways to combine both his business and his political ambitions, Warner campaigned for public office with a wheel of cheese at his elbow. After he presented the Owosso Republican Club with such a gift, the local newspaper reported, "This cheese will be sliced and served with crackers." Other papers lampooned the future governor with cartoons showing Warner slicing up the issues with a knife held over a wheel of cheese.⁴⁵⁰

In his first bid for the governor's office in 1904, Warner found himself competing in the primary election against fellow Republican, Michigan Dairymen's Association member, and cheese manufacturer George Byron Horton of Fruit Ridge. As master of the Michigan Grange, Horton was not without a vast base of political support. No doubt

⁴⁴⁸ *Michigan Farmer*, "Gov. Warner's Milking Machine" (May 19, 1906), p. 516.

⁴⁴⁹ Jean M. Fox, "I went to the People..." *Fred M. Warner, Progressive Governor* (Farmington Hills, MI: Farmington Hills Historical Commission, 1988), p. 375.

⁴⁵⁰ Jean M. Fox, "I went to the People..." *Fred M. Warner, Progressive Governor* (Farmington Hills, MI: Farmington Hills Historical Commission, 1988), p. 381.

pressured by the Grange to run, Horton reluctantly accepted the nomination, but vowed he would not campaign for the post.⁴⁵¹

The *Chicago Record-Herald*, trying to handicap the Michigan race for governor in the summer of 1903, proclaimed, “Cheese in Politics.”⁴⁵² Horton lost the nomination to Warner, conceding even before the delegates of Oakland County—Warner’s base—cast their votes at the convention.⁴⁵³ Warner went on to defeat incumbent governor Aaron T. Bliss for the Republican nomination at the state convention, ultimately defeating Democratic nominee Woodbridge N. Ferris in the general election.⁴⁵⁴ Warner served as governor of Michigan for the next three terms, leaving office in 1911.

It was through Warner’s influence as governor that many of the reforms involving the Michigan Dairy and Food Commission occurred. Soon after taking office, Warner was asked to address the second auxiliary meeting of the Michigan Dairymen’s Association, where the assembled members expressed pride in having one of their own in the governor’s office. Warner stated, “Up to this year, the Dairy and Food Department had been spending \$25,500 in enforcing the pure food laws of the state.”⁴⁵⁵ He also asserted, “It has been said that the state is to expend \$35,000 on the dairy industry, but this is not so.” Since nothing was being done to foster dairying, he believed that either the word dairy should be deleted from the name of the department, or else the scope of the

⁴⁵¹ Letter, Bentley Historical Library, University of Michigan, Ann Arbor, MI. Scrapbook history of the George Byron Horton Family compiled by Carolyn Holden.

⁴⁵² Jean M. Fox, “*I went to the People...*” *Fred M. Warner, Progressive Governor* (Farmington Hills, MI: Farmington Hills Historical Commission, 1988), p. 68.

⁴⁵³ Jean M. Fox, “*I went to the People...*” *Fred M. Warner, Progressive Governor* (Farmington Hills, MI: Farmington Hills Historical Commission, 1988), p. 380.

⁴⁵⁴ William Stocking, *Under the Oaks: Commemorating the Fiftieth Anniversary of the Founding of the Republican Party, At Jackson, Michigan* (Detroit: Detroit Tribune Publishing, 1904), p. 118. Horton was put up for nomination in 1902. He gained only forty votes at the party’s state convention. Michigan Manual 1905, p. 476.

⁴⁵⁵ *Michigan Farmer*, “Second Auxiliary Meeting of State Dairymen’s Association” (September 16, 1905), p. 205.

department should be widened so that the work would mean something. Warner believed that the dairymen of the state were entitled to this support and that “the new dairy law will result in as much good to the state as any law passed by the last legislature.”

With the support of the state’s highest office, the Michigan Dairymen’s Association, and the Dairy and Food Commission, laws were passed, quality dairy products began reaching the market, the public’s health and safety improved, and fortunes were made in Michigan’s cheese industry.

Starting in 1909, the Dairy and Food Commission appointed six special inspectors to cover the investigation of city milk supplies. By 1910, the work had grown to the point that the department “used students from the Michigan Agricultural College for this work, their efficiency was highly demonstrated . . . about eighteen student assistants have been employed throughout the state under laboratory supervision, guarding against the dangers incident to unclean milk,” wrote Warner.⁴⁵⁶

In his last address to the Michigan legislature in January 1911, Warner delighted in the accomplishments of the Dairy and Food Commission on behalf of the people of Michigan. Near the end of his remarks relating to the agency, Warner sheds even more light on the role of the inspectors and the work of the department. By 1911, the department’s emphasis was shifting to a new field: that of the inspection of city milk supplies, especially during the summer months of July and August when public mortality (especially among infants) was at its greatest. As a consequence, less of the department’s resources were being put to the inspection of cheese factories.

⁴⁵⁶ George N. Fuller, *Messages of the Governors of Michigan Volume IV* (Lansing, MI: The Michigan Historical Commission, 1927), pp. 564-565.

Chase S. Osborn was elected the next Republican governor of Michigan, succeeding Warner in 1911. Osborn ran on a platform that proclaimed he would serve only one term, and he kept his word. However, his interests as governor were unrelated to agriculture. The dairy organizations of the state had lost their direct access to the governor's office. Outraged by this lack of attention from the new governor, and possibly by the use of students to make inspections the previous year, members of the Michigan Dairymen's Association resolved at their twenty-seventh annual meeting in Bay City in March 1911, that:

"WHEREAS, There is a general complaint arising from members of this association regarding the character of the inspection made by the present staff of the Dairy Inspectors in our dairy and food department, due to a lack of knowledge of dairy and creamery and cheese factory work, be it,

"RESOLVED, That this association recommend that the dairy inspectors of the dairy and food department be selected with strict regard for their experience and training in the dairy industry, in order that the long existing high standard of inspection be maintained and that the interest of both producer and consumer be thereby efficiently protected."⁴⁵⁷

The resolution was published in the *Michigan Dairy Farmer* soon after the meeting closed. Dairy and Food Commissioner Gilman M. Dame immediately tried to put out the fires of discontent created by the resolution. Writing Dairymen's Association member T. F. Marston, who had sent him a copy of the pronouncement, Dame hoped to smooth over the issue of poor inspections by laying the blame at his own door and not that of Governor Osborn:

"At the time the resolution was passed," Dame wrote, "the entire dairy inspection force of this Department had only made 8 creamery inspections, inspected 30 farm dairies and 18 city milk supply. In explanation of this I will say the force had been in this office receiving

⁴⁵⁷ *Michigan Dairy Farmer*, "Resolutions Adopted at the 27th Annual Meeting of the Michigan Dairymen's Association" (March 1911). RG-45, B4, F8, Correspondence, State Officers, Dairy and Food Department, 1911-1912. Archives of Michigan, Lansing, Michigan.

special instructions in the laboratory and had been doing fieldwork but a few days. It seems to me that with these facts before you, you will agree with me that the framers of your resolution use unwarranted language then they say there is a general complaint arising, etc. I believe the men that I have selected to do the dairy inspecting work are competent to carry out the instructions I have given them.

“ I too regret that I was unable to be with your Association during the convention. Owing to the fact that I have no deputy, I am very closely confined to my office, otherwise I would run over to Bay City and talk this matter over with you.”⁴⁵⁸

Osborn was the last Progressive Republican governor of Michigan in a long line that stretched back to before the Civil War. Woodbridge N. Ferris, a Democrat from Big Rapids, succeeded Osborn as governor. As president of the college that bore his name (now Ferris State University), his interests lay in education, not in dairy farming.

A System that Works

Since the 1890s, Michigan’s Republican-controlled legislature, MAC, and the state’s dairymen had worked together through government regulation, better science, technology, and education to make “Soft Michigan” cheese one of the safest foods produced in the state.

However, on May 11, 1917 that premise changed. On that date, a number of residents of Bath, Michigan met for a potluck dinner on the local school lawn. Six of the sixteen persons present contracted typhoid fever.⁴⁵⁹ Later that same month, on May 23, community residents met again for a luncheon at the schoolhouse, and this time three of

⁴⁵⁸ Letter to T. F. Marston, Bay City, Michigan, from Gilman M. Dame, March 1, 1911. Correspondence, State Officers, Dairy and Food Department, 1911-1912 RG-45, B4-F8, Archives of Michigan, Lansing, Michigan.

⁴⁵⁹ *American Heritage Dictionary of the English Language, 4th Edition* (New York: Houghton Mifflin Company, 2000), p. 1864. Typhoid fever is an acute, highly infectious disease caused by a bacillus transmitted chiefly by contaminated food or water and characterized by high fever, headache, coughing, intestinal hemorrhaging, and rose-colored spots on the skin. Throughout most of the nineteenth and early twentieth centuries, typhoid fever was rated among the four deadliest human diseases worldwide. By the twentieth century, scientists had isolated the bacillus, but were still working toward its eradication.

the thirteen persons present contracted the disease. Food items consumed at those two events included potato salad, fruit salad, fruit Jell-O, cheese, pickles, cookies, ice cream, lemonade, hot chocolate, cake, and coffee. In all, fifty-one Bath resident contracted the disease and four persons died between May 25 and July 11. The village was looking at a potential epidemic. On June 6, the health officer for Bath Township contracted the Michigan State Department of Health for help in suppressing typhoid fever within his jurisdiction.

At first ice cream was thought to be the source of the contamination, but upon further investigation, suspicions turned toward the cheese. It appeared that the victims had all consumed cheese purchased from the village store in Bath; the owner had, in turn, purchased the questionable product from a Lansing, Michigan wholesaler. With the store records and the labeling on the individual cheese boxes, the wholesaler was able to identify the cheese factory in Marion Springs, Michigan where the cheese had been made. From there, engineers from the Michigan Department of Health were able to isolate the contamination to one of two farms that were supplying milk to the cheese factory.

Through testing of the individuals living and working on these family farms, two hired hands were identified as having had typhoid fever in the last two years. Even though the individuals were not ill at the time, they were still passing on the disease through the bacillus contaminating the raw milk. Both individuals were banned from further contact with raw milk and the farms lost their privilege of selling milk to the Marion Springs Cheese Factory.

As the crisis developed, it became vitally important to locate the source of the typhoid bacillus, because the Marion Springs Cheese Factory had also sold cheese to wholesalers in St. Charles, Chesaning, Ann Arbor, Ypsilanti, and Detroit, all stops on the Michigan Central Railroad line. Although several cases of typhoid fever were reported in Ypsilanti and Detroit, compared to the Bath Township case the final outbreak was not as severe. This was because the cheese had aged several more weeks by the time it reached those areas for sale. While “Soft Michigan” cheese tastes best after having aged only fourteen days, it is at this point that the typhoid bacillus is at its most deadly. In short, the cheese made during the last two weeks of April 1917 at the Marion Springs Cheese Factory had the potential of infecting the residents of eight counties and the largest city in Michigan with typhoid fever.⁴⁶⁰

The ability to trace the contaminated cheese back to its source was due in large part to the previous decades of government regulation. Laws that created the Dairy and Food Commission and the Department of Public Health required cheese manufacturers to register their factories at the start of every season. When each factory paid its licensing fees, makers were given a number so that wholesalers would know where each cheese had been made. Licensing fees in turn supported the salaries of the factory inspectors who recorded factory conditions and issued warnings for improvement in production standards. Noncompliance meant factory closure. State regulation of the food supply supported national legislation creating the Pure Food and Drug Act of 1906, ensuring the consumer a safer food product.

⁴⁶⁰ Edward D. Rich, “A Typhoid Fever Epidemic Traced to Cheese,” *American Journal of Public Health* (March 1923), pp. 1-3.

MAC's land-grant commission fostered educational aspirations among the youth of the state's agricultural communities. Supported by the local, state, and the national Grange and other farm-based organizations, such as the Michigan Dairymen's Association, MAC developed dairy programs that taught the latest in the science and technology of dairy production, among them raw milk processing, butter, ice cream, and cheese. Students could receive a four-year degree or take a four-week short course.

In the end, this combination of government regulation and higher education benefited the ever-growing urban populations of the state. The first decades of the twentieth century saw the greatest migration of rural residents to urban manufacturing centers—primarily for jobs in automobile related industries—that had ever been experienced to that date. Urban residents could trust that the food they consumed was not contaminated or adulterated, and was the same “uniformity” from day to day.

Norman Bradish Horton

During the early decades of the twentieth century, the national Republican Party was split by the Progressives, ending the Michigan Republican Party's control of the governor's office for the rest of the century, and forcing a never-ending battle between Democrats and Republicans for legislative control. Into this political mix came a little-known resident of Lenawee County who would have a far-reaching impact on MAC, but more importantly on the commercial manufacture of cheese in Michigan.

After graduating from MAC in 1902, with a degree in agriculture, Norman Bradish Horton returned to Lenawee County to work for his father. Ten years later, in 1912, Horton left the family business to open his own cheese factory in Osceola County.

he operated this cheese factory until 1917, when he sold his interest and entered the Second Officers Training Camp at Fort Sheridan, Illinois.⁴⁶¹ For the remainder of World War I, Horton stayed stateside, serving in a variety of camps around the United States.⁴⁶²

Under the provisions of the Morrill Act, men enrolled at land-grant institutions were to receive instruction in “military tactics.” Organized military activities began in 1885, when the army assigned Lieutenant John A. Lockwood to MAC to train the farm boys who had volunteered to drill and do calisthenics twice a week. Through the efforts of Lieutenant W. L. Simpson, military science became a requirement in 1888 for all male students until they entered their senior year.⁴⁶³ Horton would have received enough military training at MAC to qualify him as an officer; it was most likely his age that kept him stateside. At the end of World War I, he returned to the family farm, where his father died in 1922. Horton took control of his father’s estate, living at Fruit Ridge, where he managed the 1,500-acre farm and nine cheese factories with limited success.

In 1921, Horton ran as a Republican and was elected to the Michigan legislature as a senator from the Nineteenth District, representing Lenawee and Monroe Counties. Horton used his father’s standing among the county’s Republicans to win election. He was reelected by wide margins for the next decade, ultimately becoming president pro tem of the Michigan Senate in 1931. He was narrowly defeated in 1932 by local

⁴⁶¹ Fred Girton, *The Fort Sheridan Association, Its History and Achievements* (Chicago: Hawkins and Loomis Co., 1920), p. 450. Horton served in the Eleventh Regiment, Tenth Company, Second Officers Training Camp, Fort Sheridan, Illinois, an officers training center for men from Wisconsin, Michigan, and Illinois.

⁴⁶² Frank D. Fitzgerald, *Michigan Official Directory and Legislative Manual, Published by the State of Michigan, 1931-1932* (Lansing, MI: Michigan Legislature, 1932), pp. 651-652.

⁴⁶³ Keith R. Widder, *Michigan Agricultural College: The Evolution of A Land Grant Philosophy, 1855-1925* (East Lansing, MI: Michigan State University Press, 2005), pp. 130-131.

Democrat Samuel W. Raymond, brother-in-law of Michigan automobile baron Henry Ford.⁴⁶⁴

As the freshman senator from the Nineteenth District, Horton worked to pass legislation closely related to his own interests, mostly laws regulating the state's hunting and fishing industries.⁴⁶⁵ However, two pieces of legislation from Horton's long career in the Michigan legislature are of special interest. The first came in 1923, when Horton introduced Senate Bill No. 116:

"A Bill: To define cheese and to regulate the manufacture and sale of same within the limits of the State of Michigan; to provide for labeling. Prescribe a penalty; and to repeal sections 5.7 and 8 of Act No. 193, Public Acts of 1895, as amended by Act No. 73, Public Acts of 1913; also to repeal section 6 of Act No. 193; Public Acts of 1895, as amended by Act no. 118, Public Acts of 1897, and Act No. 73, Public Acts of 1913."⁴⁶⁶

Essentially, the bill accomplished several things: first, it regulated the types of cheese produced in Michigan; second, it provided stricter labeling for the sale of cheese; and third, it repealed all of the legislation related to cheese that had been created since 1895. Significantly absent among the long list of recognized Michigan cheese was the "Soft Michigan" type that had garnered the Horton family's wealth for more than sixty years. What prompted Horton to introduce this bill is unknown.⁴⁶⁷

On the third reading of Senate Bill 116, the roll was called and the senators voted as follows: Yea—30 (Atwood, Bahorski, Bohn, Eldred, Gansser, Gettel, Karcher, Leland,

⁴⁶⁴ Frank D. Fitzgerald, *Michigan Official Directory and Legislative Manual, Published by the State of Michigan, 1933-1934* (Lansing, MI: Michigan Legislature, 1934), p. 95 and 645.

⁴⁶⁵ Senate bills related to Norman B. Horton, 1921-1932. Letter from R. Robert Geake, Michigan state senator, to Smith Horton answering the inquiry into his father's senatorial service (December 22, 1987). Stated that Norman B. Horton was best remembered for a hunting law known today as "Horton's Law," which provided for no trespassing legislation still enforced today. Scrapbook history of the George Byron Horton Family compiled by Carolyn Holden.

⁴⁶⁶ Senate Bill No. 116.

⁴⁶⁷ Subsequent searches of the Archives of Michigan and the Library of Michigan have turned up little in regard to the motive behind this bill. Staff acknowledged the fire that destroyed their holdings in the Lewis Cass Office Building, Lansing, Michigan in 1951.

MacNaughton, Ross, Smith, Truettner, Brower, Case, Bernie L., Case, William L., Condon Connelly, Glaspi, Hayes, Henry, Horton, Hunter, Osborn, Pearson, Penney, Riopelle, Whiteley, Wilcox, Wood and Young). Nay—0.⁴⁶⁸

With the unanimous passage of the bill, what had been a mainstay of the Michigan's agricultural economy for more than sixty years ended in April 1923. Industry and government regulation no longer recognized the production of commercially manufactured "Soft Michigan" cheese under the local factory system.

Horton went on to become president pro tem of the Michigan Senate, a coveted position conferred by his colleagues.⁴⁶⁹ He introduced another bill of significance in 1925, Senate Bill 217. That bill, later passed by the legislature, changed the name of the Michigan Agricultural College to Michigan State College, giving it both a new name and a renewed vigor.

Horton was defeated for re-election in 1932 by Democrat Sam Raymond of Adrian. As Henry Ford's brother-in-law, Raymond was more interested in automobiles than agriculture. Deeply in debt, despondent over his political losses, and suffering from an incurable heart condition, Horton died in 1933—committing suicide in the library of the old family farmhouse that his father's cheese empire had built.

For more than eighty years, three generations of the Horton family had made a name for themselves in Michigan's agriculture and dairy economies. They were instrumental in creating the "Soft Michigan" cheese industry, which began at their kitchen table and spread through the halls of MAC and the Michigan legislature. They provided jobs and stable incomes for their neighbors' family farms and commercially

⁴⁶⁸ Senate Bill No. 116.

⁴⁶⁹ The president pro tem serves as president of the Senate in the absence of the lieutenant governor.

operated cheese factories, and worked with the Grange, the Michigan Dairymen's Association, and the state's agricultural societies to make Michigan's food supply safe for urban and rural residents alike.

Michigan Department of Agriculture

On March 22, 1921, the Michigan legislature created the Michigan Department of Agriculture. As part of this new government reorganization, under Republican Governor Alexander J. Grosebeck, the duties of the Dairy and Food Commission were rolled into the new department. The responsibilities of licensing and regulating the state's dairy industry now fell to the new Bureau of Dairying. In an October 15, 1922 pamphlet, the bureau published a list of all the licensed manufacturers of dairy products in the state. Several key trends are noted among those listed.

First, of the twenty-six commercial cheese factories operating in Lenawee County in 1905, only two remained in 1922. The former Onsted Cheese Factory at Onsted, now known as the Onsted Dairy Company, specialized in cheese, butter (a byproduct of the cheese not made from full cream), and ice cream. The other, located at Fruit Ridge, was now called the Pioneer Cheese Factory. The latter, the second cheese factory in Lenawee County, was now one of the last. Two generations of the Horton family were struggling to maintain their cheese empire. Both would eventually lose.

With the automobile age in full swing and Michigan's rural roads vastly improved over the preceding two decades, Lenawee County's dairymen found new and more centralized markets to sell their products. There was no need for a cheese factory located every two or so miles across the county. Good roads and motorized vehicles allowed

farmers to drive ten, sometimes twenty, miles to the nearest industrialized dairy processing plants.

The towns of Hudson, Morenci, Adrian, and Tecumseh had large factories for processing milk-based products. The largest of these plants turned raw milk into evaporated canned or condensed milk. The new condensing and evaporating plants produced milk for national and international markets, employing several hundred workers at each plant. During World War I, these companies supplied evaporated and condensed milk to Allied forces in Europe. They were Helvetia Milk Condensing Company of Hudson, The National Dairy Company of Ohio-Morenci plant, and Van Camp Packing Company of Adrian. Within several decades, Pet Milk Corporation, with its worldwide subsidiaries, would buy out these plants.⁴⁷⁰

The processing of evaporated and condensed milk was not new to Lenawee County dairymen. In 1900, Knosco and Campbell started to make sweetened condensed milk in Morenci. By 1902, the Ohio Dairy Company had bought the plant, expanding it in 1905. The company later became the National Dairy Company of Ohio and then the United Milk Products Corporation. At the peak of production, the plant handled 180,000 pounds of milk per day and made 148,000 pounds of cheese per year in addition to its milk processing operations. During this time, the dairy pumped water for the city of Morenci and furnished the steam heat for Stair Auditorium (theatre). The company also provided a steam fire alarm whistle. Milk production was halted in November of 1950.⁴⁷¹

⁴⁷⁰ Charles N. Lindquist, *Lenawee County, A Harvest of Pride and Promise* (Chatsworth, CA: Windsor Publications, Inc., 1990), p. 64-65.

⁴⁷¹ *Our Journey in Time: Morenci, Michigan, 1833-1976* (Lansing, MI: Michigan Bicentennial Commission, 1976), p. 55.

In 1909, Helvetia Milk Condensing Company built a processing plant in Hudson. According to Richard Bonner's *Memoirs of Lenawee County Michigan, Volume I*, the new plant was "one of the latest in construction, but not least in importance being an extensive milk condensing plant, which is a boon to the farmers and a valuable addition to the industries of the city. A large amount of farm products are handled and shipped from that station and, all in all, Hudson is a commercial center of much importance."⁴⁷²

At first the new milk processing plants posed little threat to the local cheese factories in Lenawee County; after all, the patrons were the same men delivering milk to be made into cheese and receiving payment for their product through the sale of the same. But, little by little, the larger processing plants began to offer higher prices for milk delivered to their doors. The *Hudson Gazette* is full of such notices. In addition, the thirty-year limit on articles of association that created the cheese factory system was nearing its end. Local farmers, no longer bound by these associations based on family ties or party affiliations, began to shift their business to the larger processing plants, assuring both the producer and manufacturer a direct and steady supply of milk and cash.

Demand for traditional dairy products increased throughout the twentieth century. Very few, if any, rural households and no urban dwellers made butter at home. The eastern side of Lenawee County became the butter processing Mecca, with two factories in Tecumseh and one in Deerfield. Detroit Milling Company based a butter manufacturing plant in Adrian, bringing the number of butter processing plants in the county to four.⁴⁷³

⁴⁷² Richard I. Bonner, *Memoirs of Lenawee County Michigan, Vol. I* (Madison, WI: Western Historical Association, 1909), p. 370.

⁴⁷³ Michigan Department of Agriculture, *Michigan dairy manufacturing plants* (Lansing, MI: Bureau of Dairying, 1922).

Long the haven of eastern European immigrants, Lenawee County's larger cities boasted significant foreign populations during the early decades of the twentieth century. Many immigrants brought with them experience in making ice cream. Coscarelli and Company of Hudson, Tangalakis Brothers of Adrian, and Melonakos and Vaglakos of Tecumseh did well in this business. Ice cream parlors also made limited quantities of ice cream for the wholesale market, such as Ye Sweete Shoppe in downtown Adrian.⁴⁷⁴

Not surprisingly, the *Michigan Dairy Manufacturing Plants* leaflet indicates a location shift for the state's dairy industry at the beginning of the twentieth century. The April 1903 issue of the *Michigan Investor* reports that the Saginaw Valley has become a "Great Cheese Region."

"The Saginaw Produce and Cold Storage Company will operate five cheese factories in northern Michigan this year. The factories are located at Harrisville, Alcona County; Sterling, Arenac County; Standish, Arenac County; Pine River, Arenac County; and Buena Vista, Saginaw County. The company expects to have seven more factories before the season ends. The company believes that northern Michigan is destined to become a great cheese-making region."⁴⁷⁵

Once localized in southeast Michigan, by the middle of the twentieth century the bulk of the dairy processing in the state had moved to the Upper Peninsula, especially along the northern and western border of Lake Michigan. Both Delta and Menomonee Counties comprise a region now referred to as "Cloverland." With better transportation both on land and by water; a close proximity to markets in Green Bay and Milwaukee, Wisconsin, Duluth, Minnesota and Chicago, Illinois; and spurred on by a short growing

⁴⁷⁴ Michigan Department of Agriculture, *Michigan dairy manufacturing plants* (Lansing, MI: Bureau of Dairying, 1922).

⁴⁷⁵ *Michigan Investor*, "Great Cheese Region" (April 4, 1903), p. 17

season for everything else but hay, Michigan's Upper Peninsula became a literal dairy land. The automobile brought thousands of tourists to the region, both by land and by lake ferry, making "Cloverland" a popular destination during the early part of the twentieth century.

Another reason for the shift in Michigan's dairy population during the early part of the twentieth century was, of course, the automobile industry that was booming in the southeastern counties of the state. As more and more of Michigan's rural population moved toward Detroit, fewer people were left to work on the region's dairy farms. Higher wages, shorter working hours, and more leisure time lured many young men to the automobile factories of Detroit, Flint, and Lansing.

With the continued success of the larger processing plants, dairy farmers in Michigan looked for new ways to market their products and reap the most direct benefits from their labors. In 1916, a group of farmers joined together to form the Michigan Milk Producers Association (MMPA), a loose organization that worked to control the shipment of milk into Michigan's larger cities, especially Detroit.

No milk products could be sold in the city of Detroit without the close supervision of the city milk inspector. His duties included not only overseeing the sale of milk within the city of Detroit, but also traveling into the surrounding rural areas and inspecting the farms where the milk was produced. Among other requirements for selling milk in Detroit, a farmer had to paint the dairy sections of his barn white. This was intended to show the cleanliness of his operation.

To assist farmers with the inspection process and ensure a quicker return on their product, the MMPA created a farmer-supported processing system that included hauling

the milk from the farm to the local processing plant, where it was bottled in a sterilized environment and then certified before shipment directly to distributors in Detroit.

Michigan Milk Producers Association operated such a plant in Adrian during the early part of the twentieth century.

By the 1930s, the manufacture of “Soft Michigan” cheese in southeast Michigan had run its course. This was a result of losing the industry’s important political allies and influence in both state and local governments, as well as the loss of its chief producers. Thereafter, the cheese found in Lenawee County, Michigan would come not from a locally run commercial cheese factory, but from a well regulated, highly industrialized factory somewhere else in Michigan.

CONCLUSION

When Sanford Howard, secretary of the State Board of Agriculture, proposed producing cheese by the commercial factory system in 1864, few Michigan farmers had much interest in the idea. Up until that point, cheese had been made by local farm women on their kitchen tables or purchased from eastern or southern markets in the states of New York and Ohio. Michigan's Civil War agricultural economy was achieving good profit margins in wheat, wool, and apples. Howard, having seen the cheese factory system work for eastern dairymen, thought Michigan an excellent location to expand the cheese market. However, he needed to convince someone that the commercial production of cheese by the factory system could indeed work in Michigan. Howard found his man in Rufus Baker of Fairfield Township, Lenawee County, Michigan. Baker opened his cheese factory in the spring of 1866 and was soon followed by Samuel Horton, also of Fairfield Township, Lenawee County.

Once Baker and Horton's commercial cheese factory system could be replicated with reasonable profit margins, other Lenawee County dairymen followed suit. Lenawee County was well situated to local, state, and regional markets with the availability of railroad transportation networks. Its ideal climate of moderate weather and good well-watered and well-drained soils were perfect for dairy production.

Starting down the path to the commercial production of cheese by the factory system was relatively easy for Lenawee County farmers once the idea took hold, but maintaining such a system for the next sixty years would prove challenging. Had not the Michigan legislature, several Michigan governors, members of the state's agricultural

community, and MAC joined forces, Howard's proposal of a commercialized factory system for cheese production would not have taken off and lasted for as long as it did.

After a handful of cheese factories were established, the Michigan legislature immediately passed laws to regulate cheese production. These new laws ensured a safe, unadulterated product for the public and reasonable profit margins for the producers. By the end of the nineteenth century, factory inspections became a regular part of the process, further ensuring a safe product.

Michigan's new dairy and food laws were initiated by a coalition of Progressive Republicans who had interests in the Michigan Grange and the Michigan Dairymen's Association, and were for the most part Civil War veterans. The common background of these Michigan agriculturalists would keep dairy interests before the Michigan legislature for more than half a century. Michigan's Republican governors filled many key department and cabinet positions from this special interest group.

It is from this same pool of Michigan's agriculturalists that positions were filled on the State Board of Agriculture, the governing body of the Michigan Agricultural College Michigan (MAC). Progressive Republican governors commonly appointed other Republicans to MAC's board, who in turn chose the college's president and faculty. The Michigan Grange and the Michigan Dairymen's Association worked with MAC's faculty, lobbying faculty interests before the Michigan legislature. Grange and Dairymen Association members, collectively and individually, supported MAC financially.

MAC invested its support from these groups into its physical plant, building new dairy barns, buying registered breeding stock, and expanding its academic offerings to its students. In turn, the scientific and technical knowledge gained at MAC was disseminated

to Michigan's larger agricultural community, by the SBA secretary, through monthly bulletins, annual reports, public speaking events, and the yearly Farmer's Institutes. From the first short course on cheese making came an avalanche of other short courses at MAC.

This combination of government, education, science, and technology would spell the end of commercially produced cheese by the factory system during the beginning decades of the twentieth century. Government regulation created the safest, most uniform cheese product ever made till that point, but it also proved that only a given number of cheese types could be made in a uniform manner. Those cheeses, in particular "Soft Michigan," which could not be produced by a regular formula could no longer be made in Michigan by act of the legislature in 1921. Faculty at MAC and members of the Michigan Dairymen's Association had debated for years whether they could make "Soft Michigan" cheese by a given formula, and in the end they could not.

The need for a more general agricultural education also put cheese making on the back burner for many MAC students. Modernization had brought too much new technology to the family farm, forcing the next generation of Michigan farmers to learn more about soils, gasoline engines, and disease-resistant crops.

The emerging global market driven by World War I shifted the dairy industry in Michigan toward a variety of processing plants and away from the local cheese factory. More stable prices for raw milk at the condensed and evaporated milk plants moved dairy production toward industrialization, as did the bottling plants operated by the Michigan Milk Producers Association, which had the ability to pick up raw milk right from the

farm, bottle it, and have it sold in Detroit—in clean, pasteurized bottles—in less than a day.

Sanford Howard's initial proposal of a commercial cheese factory system for Michigan farmers had been timely and appropriate. His idea had succeeded in moving Michigan's agricultural economy from wheat and wool to dairy in sixty years. Huge profits were made in the dairy industry—especially cheese production—by the turn of the twentieth century, but only for those farmers willing to invest time in government, education, science, and technology. What Howard did not foresee was the transformation of Michigan's agricultural economy from a commercial base to an industrial base. The history of the commercial production of cheese in southeast Michigan by the factory system is the transformation of a home-based craft supported by women to an industrial system supported by science, technology, government, and education in little more than one hundred years.

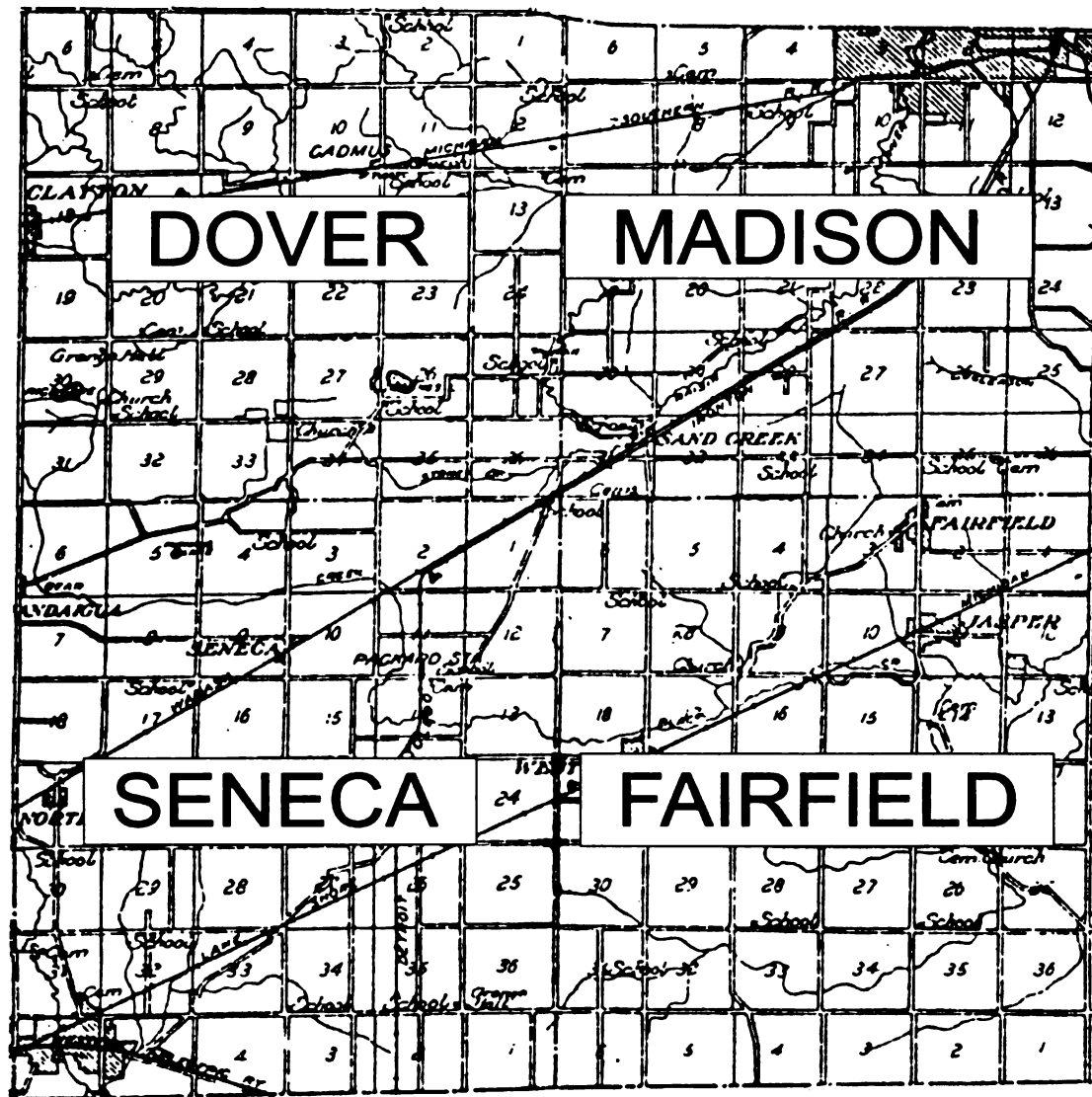


Figure 1. Lenawee County's townships: Dover, Madison, Fairfield, and Seneca.
(Combined 1874, 1893, 1916 Atlases of Lenawee County, Michigan.

Mt. Vernon, IN, 1997)

APPENDIX

Rufus Baker's letter to the State Board of Agriculture, 1866

The township of Fairfield is located six miles south of the city of Adrian, which is on the Michigan Southern Railroad, and is about 80 miles from Detroit. The township is devoted mostly to grazing and the cultivation of Indian corn. There have been about one hundred and thirty-five tons of cheese made here this season, there being some private dairies beyond the reach of the factories.

About two years ago, I turned my attention to the subject of building a cheese-factory; and in the Autumn of 1865, I visited in company with a neighboring townsman, several Ohio factories. I also visited some New York factories last January, and from those I formed a plan of my factory. I commenced my buildings in January 1866, and completed them about the first of May. Commenced making cheese on the 23rd of April, and closed November 17th. We used the milk from 230 cows, on an average.

The cost of my fixtures for manufacturing cheese, has been near \$3,500, all told, their capacity being for about 300 cows—would enlarge if I should have more than that number. I think it hardly an object to give you a description of the buildings, as it would be better for a person who wished to start a factory to make examinations for themselves.

I have found the manufacture of cheese to be very remunerative when made a primary business, and I might say very unprofitable when made secondary.

There has been delivered to my factory this season, 970,931 lbs. of milk, from April 23, to November 17th, inclusive, or 4,221 lbs. milk for each cow—making 112,420 lbs of green cheese, and allowing the cheese to shrink 10 percent (which is a fair

estimate), would give 101,198 lbs of cured cheese—483 lbs. per cow. I am compelled to estimate the shrinkage, as our cheese is not yet all cured; but former experience with a private dairy, is, that 10 percent shrinkage is enough to allow.

The probability is that our cheese will bring an average of 16 cents per lb. I have sold all but about nine tons, some sales running as high as 18 cents through the latter part of September and fore part of October. I receive for manufacturing, a cent and a half per pound, the patrons furnishing each his proportion of salt, rennets, bandages or sacking, grease, &c., with boxes for the cheese, all which amount to a trifle over two cents per pound. Each patron also bears his proportion of the expense of selling, of which a committee of three have charge.

I cannot recommend the starting of factories with the number of cows that I have, for it does not pay for the labor and investment. A factory should work up the milk from at least 400 cows to make cheese-making profitable. The factory system seems to have worked a revolution in the cheese-making business, although cheese has borne better prices since the introduction of that system than before. Should a specie basis in our currency be reached, we will not look for over ten cents per pound of cheese; and should the number of new factories now talked of be built, the probability is that our State will be supplied with all the cheese that will be wanted here.

At the present time cows are very high, and are difficult to be obtained. I know a lot of six that were sold on the first of November at \$60 per head, within the circuit of my factory.

I do not know that I can answer your inquiries in regard to the various cheese-factories in the State; but will give the following, in the order, as I understand, in which they commenced operations:

Fairfield Factory, 230 cows, Rufus Baker, proprietor; post-office address, Fairfield, Mich.

West Fairfield Factory, 300 cows, Samuel Horton, proprietor; post-office address, Adrian, Michigan.

Ypsilanti Factory, locality not known, S. H. Salisbury, proprietor; post-office address, Ypsilanti, Michigan.

I understand there is a factory in Livingston County, but I know nothing about it, and cannot learn that they have any cheese to market.

If there are any other in this State, I have not heard of them.

Fairfield, Mich., Dec. 14, 1866 Rufus Baker⁴⁷⁶

Acts of the Michigan Legislature Related to the Cheese Industry

AN ACT to prevent the adulteration of milk, and to prevent the traffic in impure and unwholesome milk.

Section 1. *The People of the State of Michigan enact*, That any person or persons who shall knowingly, with intent to cheat or defraud, sell, exchange or deliver, or offer for manufacture at any cheese factory, any impure, adulterated or unwholesome milk, shall be deemed guilty of a misdemeanor, and shall forfeit and pay, on the first conviction, twenty-five dollars and the costs of suit or prosecution, and shall be at once

⁴⁷⁶ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1866* (Lansing, MI: John A. Kerr and Co., 1866), pp. 189-191.

committed to the common jail of the county, until the same be paid. On the second conviction for the like offense, he shall forfeit and pay fifty dollars and the costs of suit or prosecution, and shall be committed as aforesaid until the same be paid. On the third and every subsequent conviction, he shall forfeit and pay one hundred dollars and costs of suit or prosecution, and shall be committed as aforesaid until the same be paid.

Sec. 2. Any person who shall adulterate milk with a view of offering the same for sale, exchange or manufacture, or shall keep cows for the production of milk for market, or for sale, exchange or manufacture, in an unhealthy condition, or feed the same on food that produces impure, diseased or unwholesome milk, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be liable to the same penalties as provided for the violation of the preceding section of this act: *Provided*, That on the first conviction for the violation of either this or the preceding section of this act, such person shall not be held committed for more than ten days; for the second conviction not more than twenty-five days, and for the third and every subsequent conviction, not more than fifty days.

Sec. 3. Any person who shall sell or deliver at any cheese factory, or to any cheese manufacturer, to be made into cheese, any milk from which any cream has been taken, or any milk known as skimmed milk, or any milk from which that part hereof known among dairymen as strippings, has been withheld or kept back with intent to cheat or defraud such manufacturer, or with intent to cheat or defraud any other person or persons, contributing or delivering milk to such factory or cheese manufacturer, to be made into cheese, shall be deemed guilty of a misdemeanor, and shall be punished therefore as provided in section two of this act.

Sec. 4. The addition of water to milk, with intent to cheat or defraud, is hereby declared to be an adulteration.

Approved February 7, 1867.⁴⁷⁷

AN ACT to authorize the formation of corporations for manufacturing cheese and other products from milk.

Sec.1. *The People of the State of Michigan enact*, That corporations for the purpose of manufacturing cheese and other products from milk, with a capital stock of not less than one thousand dollars, may be formed under and in compliance with the provisions of an act entitled “an act to authorize the formation of corporations for mining, smelting or manufacturing iron, copper, mineral coal, silver or other ores or minerals, and for other manufacturing purposes,” Approved February fifth eighteen hundred and fifty-three; and every such corporation, and the officers, directors and stockholders thereof, shall have and possess all the rights, and be subject to all the liabilities, conditions and obligations in and by said act, and the acts amendatory thereof, provided and imposed upon corporations formed thereunder, and upon the officers, directors and stockholders, except as herein otherwise provided.

Sec. 2. Every corporation organized pursuant to the provisions and by authority of this act, shall, by its corporate name, have power to acquire, own and hold all such real and personal estate as may be necessary or convenient for the purpose of carrying on the business of such corporation, and the same, or any part thereof, convey, lease or demise, mortgage, use and dispose of, at pleasure.

⁴⁷⁷ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1866* (Lansing, MI: John A. Kerr and Co., 1866), pp. 34-35 of the appendix of the aforementioned volume.

Sec. 3. Corporations formed under this act shall be subject to all general laws of this State relating to corporations that may be applicable thereto, and the Legislature may amend or repeal this act at any time.

Sec. 4. This act shall take immediate effect.

Approved March 26, 1867.⁴⁷⁸

Public Acts, 1893—No. 211

AN ACT to provide for the appointment of a Dairy and Food Commissioner, and to define his powers and duties and fix his compensation.

Section 1. *The People of the State of Michigan enact*, That within thirty days after this act shall take effect, the Governor, by and with the consent of the Senate, shall appoint a suitable person to be Dairy and Food Commissioner, which office is hereby created, and which commissioner so appointed shall hold his office until the first day of January, one thousand eight hundred and ninety-five, and until his successor is appointed and qualified. At the next regular session of the Legislature, and every two years thereafter, the Governor, by and with the advice and consent of the Senate, shall appoint a Dairy and Food Commissioner, who shall hold his office for a term of two years from the

⁴⁷⁸ *Fifth Annual Report of the Secretary of the State Board of Agriculture of the State of Michigan, for the Year 1866* (Lansing, MI: John A. Kerr and Co., 1866), pp. 35-36 of the appendix of the aforementioned volume.

first day of January in the year of his appointment, and until his successor is appointed and qualified.

Sec. 2. The Governor shall have power to remove such commissioner at any time in his discretion; but the reason for such removal shall be laid before the Senate at the next regular or special session of the Legislature thereafter, and in case of a vacancy in the office of commissioner from any cause, the Governor may appoint another person to fill the same.

Sec. 3. Before entering upon the duties of his office, the person so appointed shall make, subscribe, and file in the office of the Secretary of State, an oath of office in the form prescribed by section on of article eighteen of the constitution of this State, and shall enter into bonds with the people of the State of Michigan in the sum of ten thousand dollars, with sureties to be approved by the Governor, conditioned for the faithful performance of his duties.

Sec. 4. Said commissioner shall receive an annual salary of twelve hundred dollars, payable monthly on the warrant of the Auditor General. His necessary cash outlay for the expenses incidental to the performance of the duties of his office shall be audited by the Board of State Auditors. The Board of State Auditors shall provide office room and the necessary furniture and fixtures, and the necessary stationary supplies, for the conduct of the business of the said commissioner, on his application to said board therefore. Said office shall be and remain in the city of Lansing.

Sec. 5. The Dairy and Food Commissioner shall submit for analysis any article of food or drink products which he may have reason to believe are adulterated, impure, or unwholesome and unlawful products under existing laws, to the professor of chemistry at

the Michigan Agricultural College, who is, for the purposes of this bill, to be called the State Analyst. The compensation of the State Analyst shall be, on his bills for making examinations and analyses of articles placed in his hands by the commissioner for the purpose of having their purity determined, and the charges for such services shall be no more than chemists and analysts are accustomed to charge for similar services. His bills for analyses made shall, when duly certified by the commissioner, be presented to the Board of State Auditors for audit and allowance monthly; but said Board of State Auditors shall not allow bills of the State Analyst and clerical help in excess of one thousand dollars in any one year.

Sec. 6. It shall be the duty of the Dairy and Food Commissioner to carefully inquire into the quality of the dairy and food and drink products and the several articles which are the necessary constituents of foods which are offered for sale in this State, and when he has reason to believe that any such articles, foods or products are adulterated, impure or unwholesome, he shall procure samples of the same and direct the State Analyst to make due and careful examination of the same and report his findings thereon. If it shall appear from such report that the article, food, food and drink product, or dairy product, is adulterated, impure or unwholesome, in contravention of the statutes relative thereto, it shall be the duty of the commissioner to make complaint against the manufacturer or vender thereof, in the proper county, and furnish the prosecuting attorney with the evidence thereon to obtain a conviction for the offense charged.

Sec. 7. It shall be the duty of prosecuting attorneys to prosecute to completion all suits brought by the Dairy and Food Commissioner under the several statutes relative to the adulteration of food and the sale of impure or unwholesome food or food products.

Sec. 8. It shall be unlawful for the State Analyst, while he holds the office, to furnish to any individual, firm or corporation, any certificate as to the purity or excellence of any article manufactured or sold by them to be used as food or in the preparation of food.

Sec. 9. The commissioner shall make an annual report to the Governor which shall cover the doing of his office for the preceding calendar year, which shall show, among other things, the number of specimens of food articles analyzed, and the State Analyst's report on each one, the number of complaints entered against person for violations of the laws relative to the adulteration of food, the number of convictions had, and the amount of fines imposed therefore, together with such recommendations relative to the statutes in form by the board of State Auditors as other State reports are printed; one thousand copies of each report shall be for distribution by the commissioner and one thousand copies shall be delivered to the State Board of Agriculture to be by them distributed.

Approved June 2, 1893.⁴⁷⁹

Public Acts, 1905—No. 12

AN ACT to amend sections four, five, six, eleven and twelve of act number two hundred eleven of the public acts of eighteen hundred ninety-three, approved June two, eighteen hundred ninety-three, entitled "An act to provide for the appointment of a Dairy and Food Commissioner, and to define his powers and duties and fix his compensation," as amended by act number two hundred forty-five of the public acts of eighteen hundred

⁴⁷⁹ *Public Acts and Joint and Concurrent Resolutions of the Legislature of the State of Michigan Passed at the Regular Session of 1893* (Lansing, MI: Robert Smith and Co., 1893), pp. 421-422.

ninety-five, approved June one, eighteen hundred ninety-five, and further amended by act one hundred fifty-four of the public acts of eighteen hundred ninety-seven, approved May twenty-four, eighteen hundred ninety-seven, and further amended by act number two hundred sixty-eight of the public acts of eighteen hundred ninety-nine, approved June thirty, eighteen hundred ninety-nine, and further amended by act number one hundred eighty-six of the public acts of nineteen hundred one, further amended by act number two hundred thirty of the public acts nineteen hundred three, approved June eighteen nineteen hundred three and to all thereto eight sections to stand as sections thirteen, fourteen, fifteen, sixteen, seventeen, eighteen nineteen and twenty, and to provide penalties for violations of the provisions of this act.

The People of the State of Michigan enact:

Section 1. Sections four, five, six, eleven and twelve, of act number two hundred eleven, of the public acts of eighteen hundred ninety-three, approved June two, eighteen hundred ninety-three, entitled "An act to provide for the a appointment of a Dairy and food Commissioner, and to define his powers and duties and fix his compensation," as amended by act number two hundred forty-five, of the session laws of eighteen hundred ninety-five, approved June one, eighteen hundred ninety-five, and further amended by act number one hundred fifty-four, of the session laws of eighteen hundred ninety-seven, and further amended by act number two hundred sixty-eight, of the session laws of eighteen hundred ninety-nine approved June thirty, eighteen hundred ninety-nine, and further amended by act number one hundred eighty-six, of the session laws of nineteen hundred one, approved May twenty-nine, nineteen hundred one, and further amended by act number two thirty, of the session laws of nineteen hundred three, approved June eighteen,

nineteen hundred three, are amended, and eight sections, to be sections thirteen, fourteen, fifteen, sixteen, seventeen eighteen nineteen, twenty and twenty-one, are added thereto, so as to read as follows:

Sec. 4. Said commissioner shall receive an annual salary of two thousand dollars. The said commissioner is hereby authorized and empowered, by and with the advice and consent of the Governor, to appoint a deputy commissioner. The salary of the deputy commissioner shall be fifteen hundred dollars per annum. The said commissioner may also may also appoint eight regular inspectors, who shall receive an annual salary not to exceed one thousand dollars per year, and such other special inspectors as the proper performance of the duties of the office may require, which special inspectors shall be paid not to exceed three dollars per day for time actually employed: *Provided*, That the amount paid such special inspectors any one fiscal year shall not exceed six thousand dollars. The person so appointed shall have power to administer oaths in all matters relative to the dairy and food laws and shall take and subscribe the constitutional oath of office and file the same in the office of the Secretary of State; and they shall hold office during the pleasure of the commissioner. The inspectors shall have the same right of access to the places to be inspected as the said commissioner or his deputy. The commissioner shall appoint such clerks as he may deem necessary for the transaction of the business of his office. The salaries and expenses authorized by this section shall be for the unexpired part of the fiscal year ending June thirty, nineteen hundred five, and each fiscal year thereafter. Said salaries are to be paid monthly on the warrant of the Auditor General. The actual and necessary expenses of the commissioner, deputy and inspectors, in the performance of their official duties, shall be audited by the State Board

of Auditors and paid upon the warrant of the Auditor General. Such compensation and expenses shall be certified, audited and paid in the same manner as salaries and expenses paid similar officers. The deputy commissioner and inspectors shall enter into bonds with the people of the State of Michigan in the sum of five thousand dollars each, with sureties to be approved by the commissioner, conditioned for the faithful performance of their respective duties. The Board of State Auditors shall provide office room, and the necessary furniture and fixtures and the necessary stationery, supplies and printing for the conducting of the business of said commission, on his application to said board therefore. Said office shall be and remain in the city of Lansing.

Sec. 5. The commissioner, by and with consent of the Governor, shall appoint a suitable and competent person as state analyst, who shall be a practical analytical chemist. The commissioner, in like manner, may appoint an assistant chemist. Before entering upon the duties of their offices, they shall take, subscribe and file in the office of the Secretary of State the constitutional oath of office. Their term of office shall continue during the pleasure of the commissioner. The Board of State Auditors shall provide a room in connection with the Dairy and Food Commissioner for the laboratory of the state analyst and his assistant, and the necessary furniture and fixtures therefore. In case of the absence or inability of the state analyst or his assistant to perform heir duty, the commissioner may appoint some competent person to perform the same temporarily, which person shall take, subscribe and file the constitutional oath of office. The salaries and expenses authorized by this section shall be for the unexpired part of the fiscal year ending June thirty, nineteen hundred five, and each fiscal year thereafter, said salaries to be payable monthly on the warrant of the Auditor General. The salary of the chemist shall

be not to exceed two thousand dollars; the salary of the assistant chemist shall be not to exceed twelve hundred dollars. The actual and necessary expenses of the chemist and the assistant chemist, in the performance of their official duties, shall be audited by the Board of State Auditors, and paid upon the warrant of the Auditor General. Such an amount as is found necessary in the proper performance of the work of the analyst may be expended for chemical supplies. Such compensations, expenses and supplies shall be certified, audited and paid in the same manner as the salaries, expenses and supplies of similar officers.

Sec. 6. It shall be the duty of the Dairy and Food Commissioner to carefully inquire into the dairy and food and drink products and the several articles which are foods or drinks, or the necessary constituents of foods or drinks, which are manufactured or sold or exposed or offered for sale in this State, and he may, in a lawful manner, procure samples of the same and direct the state analyst to make due and careful examination of the same, and report to the commissioner the result of the analysis of all and any such food and drink products or dairy products as are adulterated, impure or unwholesome in contravention of the laws of the State; and it shall be the duty of the commissioner to make a complaint against the manufacturer or vendor thereof in the proper county and furnish all evidence thereof, to obtain a conviction of the offense charged. The Dairy and Food Commissioner, or his deputy, or any person appointed by him for the purpose may make complaint and cause proceedings to be commenced against any person for the enforcement of any of the laws relative to adulterated, impure or unwholesome food or drink, and in such case he shall not be obliged to furnish security for costs and shall have power in the performance of their duties, to enter into creamery, factory, store, salesroom,

drug store, or laboratory, or place where they have reason to believe food or drink are make, stored, sold or offered for sale and open any cask, tub, jar, bottle or package containing, or supposed to contain, any article of food or drink and examine or cause to be examined the contents thereof, and take there from samples for analysis. The person making such inspection shall take such sample of such article or product in the presence of at least one witness, and he shall in the presence of said witness, mark or seal such sample and shall tender at the time of taking to the manufacturer or vendor of such product, or to the person having the custody of the same, the value thereof, and a statement in writing for the taking of such sample. Whenever it is determined by the Dairy and Food Commissioner, his deputy or inspectors, that filthy or unsanitary conditions exist or are permitted to exist in the operation of any bakery, confectionary, or ice cream plant, or in any place where any food or drink products are manufactured, stored, deposited or sold for any purpose whatever, the proprietor or proprietors, owner or owners, of such bakery, confectionary or ice cream plant, or any person or persons owning or operating any plant, or any person or persons owning or operating any plant where any food or drink products are manufactured, stored, deposited or sold, shall be first notified and warned by the commissioner, his deputy or inspectors to place such bakery, confectionary or ice cream plant, or any place where any food or drink products are manufactured, stored, deposited or sold, failing to obey such notice and warning, shall be guilty of a misdemeanor, and, upon conviction thereof, shall be punished by a fine not less than twenty-five dollars nor more than three hundred dollars, and costs of prosecution, or imprisonment in the county jail not to exceed ninety days, or until such fine and costs are paid, or both fine and imprisonment in the discretion of the court.

Sec. 11. The sum of thirty-five thousand dollars is hereby appropriated for the fiscal year ending June thirty, nineteen hundred six, and for each fiscal year thereafter, there is here-by the sum of thirty-five thousand dollars. Out of the amounts appropriated by this act shall be paid all salaries and expenses and chemical supplies provided for therein: *Provided*, That all expenses for stationery and printing shall be audited and paid in the same manner as other State printing and stationery.

Sec. 12. The Auditor General is hereby, directed to annually add to and incorporate into the State tax, to be levied each year, the sum of thirty-five thousand dollars, which, when collected, shall be credited to the general fund to reimburse the same for the money appropriated by this act.

Sec. 13. It shall also be the duty of the Dairy and food Commissioner to foster and encourage the dairy industry of the State, and, for that purpose, he shall investigate the general conditions of the creameries, cheese factories, condensed milk factories, skimming stations, milk stations and farm dairies in this States, with full power to enter upon any premises for such investigation, with the object in view of improving the quality and creating and maintaining uniformity of the dairy products of the State; and should it become necessary, in the judgment of the Dairy and Food Commissioner, he may cause instruction to be given in any creamery, cheese factory, condensed milk factory, skimming station, milk station, or farm dairy, or in any locality in this State, and in order to secure the proper feeding and care of cows, or the practical operation of any plant producing dairy products, and in order to secure such a uniform and standard quality if dairy products in this State, he shall furnish sufficient number of competent

inspectors for that purpose, the appointment of whom is provide for in section four of this act, and they shall be duly qualified to act as such inspectors.

Sec. 14. Whenever it is determined by the Dairy and Food Commissioner, his deputy or inspectors, that any person is suing, selling or furnishing to any skimming station, creamery, cheese factory, condensed milk factory, milk depot, farm dairy, milk dealer, the retail trade or any consumer of milk, any impure or unwholesome milk or cream, which impurity or unwholesomeness is caused by the unsanitary or filthy condition of the premises where cow are kept, or by the unsanitary or filthy care or handling of the cows, or from unclean utensils being used, or from unwholesome food, or from any other cause, the person so using, selling or furnishing to any skimming station, creamery, cheese factory, milk depot, farm dairy, milk dealer, the retail trade, or to any consumer of milk, and any person failing to obey such notice and warning, and continuing to use, sell or furnish to any skimming station, creamery, cheese factory, condensed milk factory, farm dairy, milk dealer or to the retail trade such impure or unwholesome milk or cream shall be guilty of a misdemeanor, and, upon conviction thereof, shall be punished by a fine not less than ten dollars, nor more than fifty dollars, and costs of prosecution, or imprisonment in the county jail, not to exceed ninety days, or until such fine and costs are paid, or both fine and imprisonment in the discretion of the court.

Sec. 15. Whenever it is determined by the Dairy and Food Commissioner, his deputy or inspectors, that unsanitary conditions exist or are permitted to exist in the operation of any skimming station, creamer, cheese factory, condensed milk factory or farm dairy, shall be first noticed and warned by the commissioner, his deputy or

inspectors to place such skimming station, creamery, cheese factory, condensed milk factory, milk depot or farm dairy in a sanitary condition, with a reasonable length of time; and any person or person owning or operating such skimming station, creamer, cheese factory, condensed milk factory, milk depot, or farm dairy, failing to obey such notice and warning, shall be guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine not less than twenty-five, nor more than three hundred dollars, and cost of prosecution, or imprisonment in the county jail, not to exceed ninety days or until such fine and costs are paid, or both fine and imprisonment in the discretion of the court.

Sec. 16. It shall be the duty of the proprietor or proprietors of every skimming station, creamer, cheese factory, condensed milk factory or milk depot, in the State where milk or cream is received by purchase or otherwise from three or more persons, to register with the Dairy and Food Commissioner on or before April first of each year, upon blanks furnished by said official, the location of such skimming station, creamery, cheese factory, condensed milk factory or milk depot, and the name of its owner or owners and manager. And it shall be the duty of the proprietor or proprietors of every skimming station, creamery, cheese factory, condensed milk factory or milk depot in this State, where milk or cream is received by purchase or otherwise from three or more person, to file a report with the Dairy and Food Commissioner, upon blanks furnished by said official, and to show the amount of milk or cream received by said skimming station, creamery, cheese factory, condensed milk factory or milk depot during the year ending December thirty-first preceding; and said report shall show the amount, of butter, cheese or condensed milk manufactured during the year, together with a list of names and post office addresses of the patrons of said skimming station, creamer, cheese factory,

condensed milk factory or milk depot. Every skimming station, creamery, cheese factory condensed milk factory or milk depot, so registering and so reporting, shall pay to the office of the State Dairy and Food Commissioner an annual registration fee of five dollars, to be paid at the time of such registration. The money so collected by the Dairy and Food Commissioner shall be paid into the State treasury and be used to help defray the expenses of the office of the Dairy and Food Commissioner, in addition to the annual appropriation therefore.

Sec. 17. Any person, persons or corporation who shall sell milk or cream from a wagon or other conveyance, depot or store, or who shall sell or deliver milk or cream to a hotel, restaurant, boarding house or any public place, shall be considered a milk dealer; and every milk dealer who shall sell milk or cream from a wagon or other conveyance, depot or store, or who shall sell, or deliver milk or cream to a hotel, restaurant, boarding house or any public place in any city, town or village of this State, must first obtain a license from the Dairy and Food Commissioner to sell such milk or cream. A license shall be required for each wagon or other conveyance, depot or store. Each dealer shall pay to the Dairy and Food Commissioner a license fee of one dollar for each license so granted, which license must be obtained on or before the first day of July of each year. The moneys received by the Dairy and Food Commissioner, in payment of such licenses, shall be paid into the State treasury and be used to help defray the expenses of the office of the Dairy and Food Commissioner in addition to the annual appropriation. All licenses shall be used only in the name of the owner of the wagon, depot or store, and shall, for purpose of this act, be prima facie evidence of ownership. No license shall be sold, assigned, or transferred. Each license shall record the name, residence, place of business,

number of wagons, depots or stores used (where more than one is employed) and the number of the license. Whoever violates any of the provisions of this section, in so far as relates to registration and the securing of licenses, shall be deemed guilty of a misdemeanor, and for each and every offense shall be punished by a fine of not less than five dollars, nor more than twenty-five dollars and the costs of prosecution, or by imprisonment in the county jail for not more than thirty days, or both.

Sec. 18. Any manufacturer, company, person or persons who shall sell, offer, or expose for sale or for distribution, in this State, any concentrated commercial feeding stuff used for feeding live stock, shall furnish with each car, or other amounts shipped in bulk, and shall affix to every package or such feeding stuff, in a conspicuous place, on the outside thereof, a plainly printed statement, clearly and truly certifying the number of net pounds in the car or package sold or offered for sale, the name or trade-mark under which the article is sold the name of the manufacturer or shipper, the place of manufacture, the place of business, and a chemical analysis, stating the percentages it contains of crude protein, crude fiber, nitrogen, free extract and ether extract, all constituents to be determined by the methods adopted by the association of official agricultural chemists. Whenever any feeding stuff is sold at retail, in bulk or in packages belonging to the purchaser, the agent or dealer shall furnish to him a certified copy of the chemical analysis named in this section.

(a) The term concentrated commercial feeding stuffs as used in this act shall include linseed meal, cotton seed meal, pea meals, cocoanut meals, gluten meals, oil meals of all kinds, gluten feeds, maize feeds, starch feed, mixed sugar feeds, hominy feed, rice meals, oat feeds, corn and oat feeds, meat meals, dried blood, clover meals,

mixed feeds of all kinds, slaughter house waste products; also all condimental stock foods, patented and proprietary stock foods, claimed to possess nutritive properties and all other materials intended for feeding to domestic animals: *Provided*, That such feeding stuffs, as defined above, shall not include hays, straw fodders, ensilage, the whole seeds nor the unmixed meals made directly from the entire grains of wheat, rye, barley, oats, flax-seed, maize, buckwheat, wet brewers' grains, malt sprouts, wet or dried beet pulp when unmixed with other materials. Neither shall it include wheat, rye and buckwheat brans or middlings not mixed with other substances, but sold separately as distinct articles of commerce, nor pure grains ground together.

(b) Before any manufacturer, company, person or persons shall sell, offer or expose for sale in this State any concentrated commercial feeding stuff, he or they shall, for each and every feeding stuff bearing a distinguishing name or trade-mark, file annually with the Dairy and Food Commissioner a certified copy of the chemical analysis and certificate referred to in this section, and shall deposit with said Dairy and Food Commissioner a sealed glass jar, or bottle contain at least one pound of the feeding stuff to be sold or offered for sale, together with an affidavit that it is a fair sample of the article thus to be sold or offered for sale. He or they shall also pay annually into the State treasury a license fee of twenty dollars for each and every band of feeding stuff he offers or exposes for sale in this State. Said fee is to be paid on or before April first of each year: *Provided*, that whenever the manufacturer or importer shall have paid this license fee, his agents shall not be required to do so. Whenever any manufacturer, importer, agent or seller of any commercial feeding stuff desires at any time to sell such material and has not paid, the license fee therefore, he shall pay the license fee prescribed in this

section, before making any such sale. The money collected under the provisions of this act shall be paid into the State treasury and be used to help defray the expenses of the office of the Dairy and Food Commissioner, in addition to the regular appropriation therefore.

(c) Whenever the manufacturer, importer, agent or seller of any commercial feeding stuff shall have complied with the requirements of this section, the Dairy and Food Commissioner shall issue or cause to be issued, a license, permitting the sale of said feeding stuff, which license shall terminate on April first following the date of issue.

(d) All such analyses of commercial feeding stuffs required by this act, shall be made under the direction of the Dairy and Food Commissioner, and shall be paid for out of the funds arising from the license fees provide for in this section.

(e) The Dairy and Food Commissioner shall publish, or cause to be published in bulletin form, at least annually a correct statement of all analyses made, together with any incidental information concerning same which he may deem proper.

(f) Any manufacturer, importer, company, agent, person or person, who shall sell, offer or expose for sale, without first complying with the provisions of this act, any commercial feeding stuff, or shall attach or cause to be attached to any car, package or other quantity of said feeding stuff, and analysis stating that it contains a larger percentage of any one or more of the constituents named in this section than it really does contain shall, upon conviction thereof, be fined not less than one hundred dollars for the first offense, and not less than three hundred dollars for every subsequent offences, and the offender shall also be liable for damages sustained by the purchaser of such feeding stuff on account of such misrepresentation.

(g) The Dairy and Food Commissioner, by any duly authorized agent, is hereby authorized to select from any package of commercial or other feeding stuff exposed or offered for sale in this State, a quantity not exceeding two pounds for a sample, such sample to be used for the purposes of an official analysis and for comparison with the certificate filed with the Dairy and Food Commissioner, and with the certificate affixed to the package on sale.

Sec. 19. The published annual report of the Dairy and Food Commissioner which shall be made to the Governor, shall include a complete accounting of all moneys received by the department from every source, and the amount expended by the department.

Sec. 20. All acts and parts of acts inconsistent with this act so far as they are inconsistent are hereby repealed. This act is ordered to take immediate effect. Approved March 9, 1905.⁴⁸⁰

Public Acts of Michigan No. 13—March 22, 1921

An ACT to promote the agricultural interests of the state of Michigan; to create a State Department of Agriculture; to define the powers and duties thereof; to provide for the transfer to and vesting in said department of powers and duties now vested by law in certain other state boards, commissions and officers, and to abolish certain boards, commissions and officers the powers and duties of which are hereby transferred.

The People of the State of Michigan enact:

⁴⁸⁰ *Public Acts of The Legislature of the State of Michigan, Passed at the Regular Session of 1905* (Lansing, MI: Wynkoop Hallenbeck Crawford Co., 1905), pp. 14-22

Section 1. There is hereby created a State Department of Agriculture which shall possess the powers and perform the duties hereinafter granted and conferred. The chief executive officer of said department shall be appointed by the Governor, with the advice and consent of the Senate, and shall be known as the Commissioner of Agriculture of the state of Michigan. Said commissioner shall receive an annual salary of five thousand dollars. He may appoint such assistants and employees as maybe necessary to perform the duties herby imposed, the number of such assistants and employees, and he compensation payable to all person so appointed and employed, being subject t the approval of the Sate Administrative Board. The salaries of all officers and employees hereby authorized, and he necessary expenses thereof while traveling in performing any of their duties, shall be paid in the same manner as the salaries and expenses of other state officers and employees are paid. The Board of Auditors shall provide suitable offices at Lansing and proper office equipment for the use of said department.

Section 2. The State Department of Agriculture shall exercise the powers and perform the duties now vested by law in the Department of Animal Industry, the State Food and Drug Commissioner, The State Veterinary Board, the Immigration Commission, the Commissioner of Immigration, and the Market Director. The departments, boards, commissions and officers whose powers and duties are herby transferred to the State Department of Agriculture shall be abolished as of the thirtieth day of June, nineteen hundred twenty-one. All records, files and papers of any nature that so ever pertaining to the functions thereof shall be turned over to the department hereby created. Any hearing to other proceeding pending before any board or officer whose tenure is so terminated shall note be abated, duty shall be deemed to be transferred to the

State Department of Agriculture and shall be carried on and determined by the Commissioner of Agriculture in accordance with the provisions of the law governing such hearing or proceeding.

Section 3. In addition to the foregoing powers and duties there is transferred to the state Department of Agriculture, and vested therein, the powers and duties of the State Board of Agriculture with reference to the inspection and regulation of orchards, vineyards and nurseries, the inspection and regulation of apiaries, the testing of agricultural samples the analysis of commercial fertilizers, the testing and examination of insecticides, and the analysis and testing of commercial stock foods, and the investigation and improvement of marketing conditions as now provided by law, and the state board is hereby relieved of each and all said powers and duties,. The offices of State Inspector of Orchards and Nurseries, and Inspector of Apiaries are abolished and the powers and duties pertaining thereto are likewise transferred to and vested in the State Department of Agriculture. All records and files pertaining to either of said offices, or to any other of the powers and duties hereby transferred, shall become a part of the records and files of the State Department of Agriculture and shall be preserved accordingly. All duties of the Secretary of State now imposed by law with reference to the collection and publication of statistics related to agriculture and agricultural interests with the state, shall likewise be transferred to and vested in the State Department of Agriculture, and all records and data on file shall be delivered thereto by the Secretary of State, who is hereby relieved from further performance of said duties.

Section 4. The control of all lands and other property that now is, or hereafter may be, vested in the state of Michigan or in the people of said state, for the purpose of

holding and conducting agricultural and industrial fairs, and for other agricultural purposes, is hereby placed in the State Department of Agriculture. The State Department of Agriculture is authorized to accept, on behalf of the state, grants and conveyances of property for such purposes or for any other purpose within the scope of this act, and to consent to such conditions affecting the use thereof as maybe be agreed upon, All grants and conveyances shall be taken in the name of the people of the state of Michigan. An annual state fair, at the city of Detroit, which shall have for its main purpose the exploiting and encouragement of improved methods in agricultural pursuits, is hereby authorized. The arrangement for such fairs and actual conducting thereof shall be under the immediate charge of the Board of Manages of State Fairs, which shall consist of twenty members to be appointed by the Governor and confirmed by the senate. Five members of said board shall be appointed for one year, five members for two years, five members for three years, five members for four years. The Commissioner of Agriculture shall act as chairman of said board. Said board of manages may adopt rules and regulations governing its organization and procedure. The proceeds of the state fair, and all other moneys which come into the possession of the State Department of Agriculture under the provision of this section, shall be and remain a perpetual revolving fund out of which necessary and proper expenses for the conducting of said fair shall be paid. Each member of the Board of Managers, other than the Commissioner of Agriculture, shall be entitled to ten dollars per day for each day actually expended by him in attending meetings of the Board of Manages or for work actually performed in connection with said fair; and the members of the board shall also be entitled to their actual and necessary expenses while incurred in carrying out the provisions hereof, such compensation and

expenses to be paid from the revolving fund hereby created. Whenever in the opinion of the State Administrative Board the money in such fund exceeds the amount reasonably required for the purposes thereof, the surplus shall, on order of said board, be transferred to the general fund of the state. Said board shall also possess the powers and duties now vested by law in the Michigan Agricultural Fair Commission, which is hereby abolished; and shall before the first of December of each year make full and detailed report of the Governor of all its activities, receipts and disbursement.

Section 5. It shall be the duty of the State Department of Agriculture to foster and promote in every possible way the agricultural interests of the state of Michigan; to cooperate with agricultural agencies in the different counties of the state and of the federal government; to foster direct trading between the producer and consumer; and to prevent, and assist in preventing, by all available means authorized by the law, the sale of unimproved lands and lands not suitable for agricultural development within the state by fraud, misrepresentation or deceit and the publication of false or misleading statement or advertising matter designed to effect such sales. All the powers and duties imposed by this act on the State Department of Agriculture shall be exercised and performed under the supervisory control of the State Administrative Board. Immediately prior to the opening of each regular session of the legislature the commissioner of Agriculture shall prepare and submit to the Governor and legislature his report covering all the activities of his department for the preceding biennial period. Such report may be printed by the Board of State Auditors and be distributed to such person, organizations and public officials as the Board of State Auditors may direct.

Section 6. This act, other than section one and four, shall be in force and effect on and after the first day of July nineteen hundred twenty-one All acts and parts of acts in any way contravening the provision of this act shall be deemed to be superseded and repealed as of said date.

Section 7. This act is hereby declared to be immediately necessary for the preservation of the public peace, health and safety. This act is ordered to take immediate effect.

Approved March 22, 1921.

Michigan
Fifty-Second Legislature Regular Sessions of 1923
Senate Bill No. 116, File No. 80

February 6, 1923, Introduced by Senator Horton, ordered printed, and referred to the Committee on Agriculture.

A Bill

To define cheese and to regulate the manufacture and sale of same within the limits of the State of Michigan; to provide for labeling. Prescribe a penalty; and to repeal sections 5.7 and 8 of Act No. 193, Public Acts of 1895, as amended by Act No. 73, Public Acts of 1913; also to repeal section 6 of Act No. 193; Public Acts of 1895, as amended by Act no. 118, Public Acts of 1897, and Act No. 73, Public Acts of 1913.

The People of the State of Michigan enact:

Section 1: Cheese is the sound, solid, and ripened product made from milk or cream by coagulating the casein thereof with rennet, pepsin or lactic acid, with or without the addition of ripening ferments and seasoning or added coloring matter, and shall contain in the water-free substance not less than fifty per cent of milk fat, and cheese

known as American or Cheddar Cheese shall contain not more than forty per cent of water, and cheese known as Brick Cheese not more than forty-two per cent of water, Cheese containing less than fifty per cent of milk fat in the water-free substance, shall be known and branded as skimmed milk cheese; except that what is known as "Emmenthaler" or "Domestic Swiss Cheese," "Camembert Cheese," and "Edam Cheese," or "Fancy Cheese," shall contain in the water-free substance not less than forty-three per cent of milk fat: Provided, that the provisions of this act shall not be construed to apply to such cheese as is known as "Dutch Cheese" or "Cottage Cheese."

Section 2: No person shall manufacturer, deal in, sell, offer or expose for sale or exchange, any article or substance in the semblance of, or in imitation of, cheese made exclusively of unadulterated milk or cream, or both, into which any animal, intestinal or offal fats or oils, or vegetable fats or oils or melted butter in any condition or state, or modification of the same, or oleaginous substances of any kind not produced from unadulterated milk or cream shall have been introduced.

Section 3: Every manufacturer of full cream cheese may put a brand upon each cheese, indicating "Full Cream Cheese," and no person shall use such a brand upon any cheese containing less than fifty per cent of milk fat in the water-free substance. Every manufacturer of American or Cheddar skimmed milk cheese, as defined by this act, shall put a brand upon each cheese so manufactured, indicating "Skimmed Milk Cheese," which brand shall be in plain Roman letters and made by indelible ink, and placed on the rind at intervals of not more than one inch, and so made, placed or attached that it can easily be seen and read and cannot be easily defaced, and the same shall be placed upon the surface of the cheese, before the cheese is paraffined, as well as upon the container

thereof. All skimmed milk cheese, except American and Cheddar skimmed milk cheese, shall be packed in containers on which the following shall appear, "MADE FROM PARTLY SKIMMED MILK," and the same shall be placed on the package or container so that it can easily be seen and read and cannot be easily defaced.

Section 4: The proprietor or keeper of any hotel, restaurant, eating saloon, boarding house or other place where American or Cheddar skimmed milk cheese is sold or furnished to persons paying for the same, shall have placed on the walls of every store or room where American or Cheddar skimmed milk cheese is sold or furnished, a white placard on which is printed in black ink, in plain Roman letters of not less than three inches in length, and not less than two inches in width, the words "SKIMMED MILK CHEESE SOLD or USED HERE," and shall at all times keep the same exposed in such conspicuous places as to be readily seen by any and all persons entering such store, room or rooms. No person shall offer, sell or expose for sale or exchange any cheese or package of cheese which is falsely branded or labeled. Whoever shall violate any of the provisions of this act shall be punished by a fine of not less than fifty nor more than five hundred dollars the cost of prosecution, or by imprisonment in the county jail or the Michigan Reformatory at Ionia nor not less than ninety days nor more than two years, or by both such fine and imprisonment in the discretion of the court for each and every offense.

Section 5: Sections 5, 7 and 8 of Act No. 193, Public Acts of 1895, as amended by Act No. 73, Public Acts of 1913, being sections 6478, 6480 and 6481 of the Compiled Laws of 1915; also section 6 of Act No. 193, Public Acts of 1895, as amended by Act

No. 118, Public Acts of 1897 and Act No. 73, Public Acts of 1913, being section 6479 of the Compiled Laws of 1915, are hereby repealed.

Michigan Senate Bills 1923, 1-135.

*Michigan
Fifty-Third Legislature
Regular Session of 1925
Senate Bill No. 217
File No. 214*

March 19, 1925, Introduced by Senator HORTON, ordered printed, and referred to the Committee on Michigan Agricultural College.
March 20, 1925, Reported without amendment, referred to the Committee of the Whole and placed on the General Orders.

A BILL

To amend section 1 of Act no. 269 of the Public Acts of 1909, entitled "An act to revise the laws relating to the State agricultural college, to prescribe the powers and duties of the State Board of Agriculture, and to repeal all acts and parts of acts inconsistent with the provisions of this act," the same being section 1233 of the Compiled Laws of Michigan of 1915.

The People of the State of Michigan enact:

Section 1. Section 1 of Act No. 269 of the Public Acts of 1909, entitled "An act to revise the laws relating to the State agricultural college, to prescribe the powers and duties of the State Board of Agriculture, and to repeal all acts and parts of acts inconsistent with the provisions of this act", the same being section 1233 of the Compiled Laws of Michigan of 1915, is hereby amended to read as follows:

Section 1: The State agricultural college, reorganized by Act No. 188 of the Public Acts of 1861, shall hereafter be known by the name and style of Michigan State College of Agriculture and Applied Science,” Said Michigan State College of Agriculture and Applied Science shall provide the inhabitants of this State with the means of acquiring a thorough knowledge of agriculture and all the allied branches of mechanic arts, of domestic art, of domestic science, of military tactics and of military engineering, and to this end it shall afford such instruction in science, art and literature as, in the judgment of its governing body, will promote the object of the institution. Wherever reference is made in Act No. 269 of the Public Acts of 1909 or any other law to the “Michigan Agricultural College,” such reference shall be construed to mean the “Michigan State College of Agriculture and Applied Science” herein provided for.

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