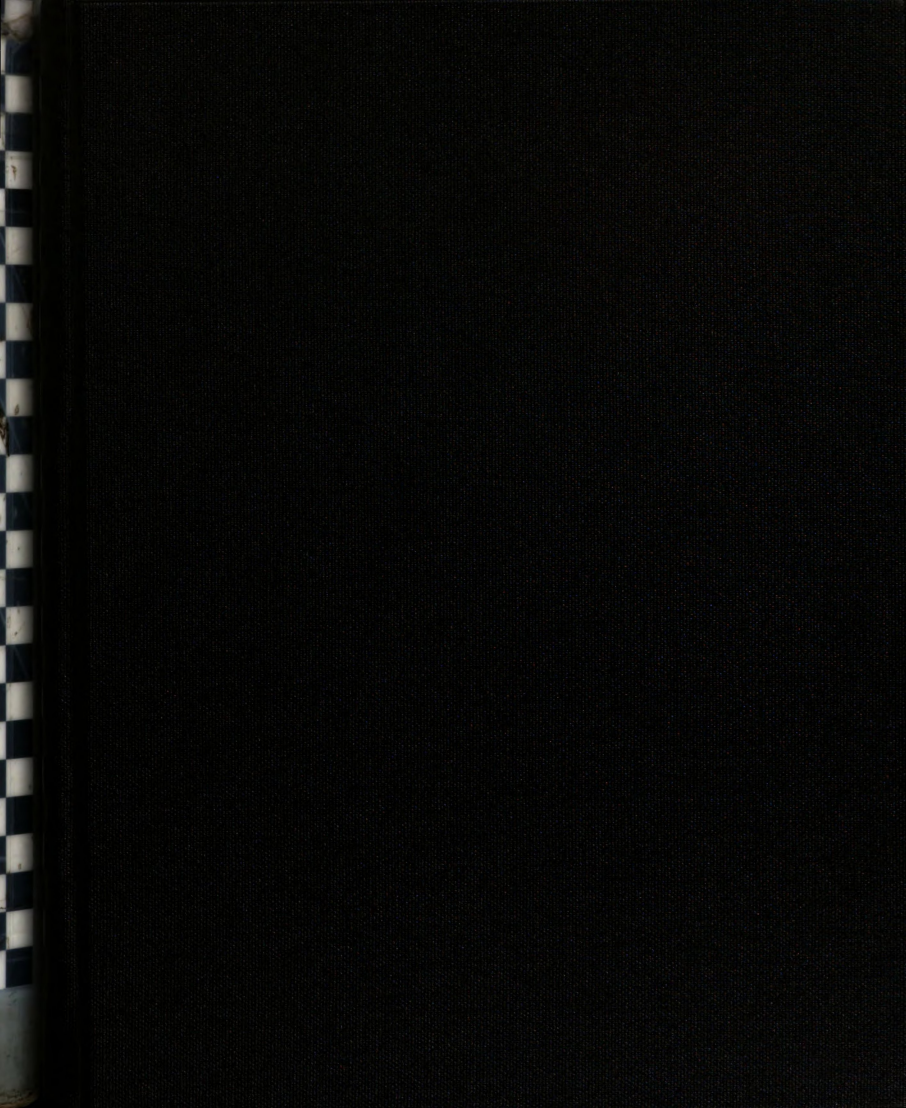






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SAFE FOOD HANDLING KNOWLEDGE,
PRACTICES, AND OPINIONS OF CONSUMERS WHO
RECEIVED OFFICE-DELIVERED FOOD AT LUNCHTIME

presented by

DEBORAH ANN GRISCHKE

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**SAFE FOOD HANDLING KNOWLEDGE, PRACTICES, AND OPINIONS OF
CONSUMERS WHO RECEIVED OFFICE-DELIVERED FOOD AT LUNCHTIME**

By

Deborah Ann Grischke

A THESIS

**Submitted to
Michigan State University
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1993

ABSTRACT

SAFE FOOD HANDLING KNOWLEDGE, PRACTICES, AND OPINIONS OF CONSUMERS WHO RECEIVED OFFICE-DELIVERED FOOD AT LUNCHTIME

By

Deborah Ann Grischke

Consumers who received office-delivered food at lunchtime were surveyed by Michigan State University campus mail to determine their safe food handling knowledge, practices, and opinions. One hundred thirty two respondents (65% response rate) completed a 24-item questionnaire. Most respondents were between 20 and 44 years of age (n=58; 76%), female (n=101; 77.1%), white (n=121; 93.1%) and had a bachelors degree or higher (n=62; 80%). Respondents had a mean knowledge score of 2.2 (44%) out of a possible 5.0. Few respondents indicated they "always" followed safe food handling practices such as hand washing (n=12; 9.1%) and storing delivered food in a refrigerator (n=56; 44.8%). The majority of respondents (n=85; 64.4%) were not willing to pay additional money for label information on safe food handling of delivered food. Results indicated a need for safe food handling information for consumers who receive office-delivered food. An inexpensive label which communicates risk of foodborne illness and associated safe food handling practices is recommended for use to educate consumers of delivered food.

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To my husband Todd for his
love, patience, and support.
Thank you for believing in me.

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1.0 INTRODUCTION

Delivered food has become one of the fastest growing market segments of the foodservice industry (Kochak, 1988; Conroy, 1988; Farrell, 1989; FMI, 1992). During 1990-91, delivered food from restaurants was used most by single persons, households with children, and people under 30 years old (NRA, 1991). In 1992 the National Restaurant Association reported that larger households, especially those with children, were most likely to purchase food from restaurants for off-premise consumption. Deliveries from restaurants more than doubled between 1984 and 1988 (NRA, 1990).

Accompanying these trends has been strong consumer interest in foods perceived to be "healthy." This has often meant fresh foods with fewer chemical preservatives and reduced salt levels (Archer and Kvenberg, 1985; Pratscher et al., 1987). The safety of such fresh foods has been questioned, especially since foods might not be consumed immediately after they are prepared or delivered (Corlett, 1989). Fresh refrigerated foods such as salads, delicatessen entrees, seafood, and cooked meats require minimal processing. Improper temperature control or lack of backup protective barriers can significantly affect the shelf-life and overall safety of these foods.

Refrigerating foods at the proper temperature can help to maintain the desired quality, but cannot guarantee product safety because some pathogens can grow at refrigerator temperatures (Corlett, 1989; Moberg, 1989). Furthermore, if subjected to contamination and subsequent time/temperature abuse, these foods become particularly susceptible to the growth of pathogenic bacteria (Bean et al., 1990; Corlett, 1989; Bryan, 1980).

The number of cases of foodborne disease occurring each year in the United States (Bean et al., 1990), and liability costs related to foodborne disease (Roberts, 1989; Todd, 1989; Archer and Kvenberg, 1985) has suggested that the rate of reporting foodborne illness in the United States is increasing each year. According to data from the Centers for Disease Control (CDC), improper storage or holding temperature of food, followed by poor personal hygiene of food handlers, were the factors which contributed most frequently to reported cases of foodborne illness in the United States between 1983 and 1987 (Bean et al., 1990).

In the United States between 1983 and 1987, a total of 550 reported foodborne disease outbreaks occurred in the home (Bean et al., 1990). When food is consumed away from home, standard equipment needed for safe food handling such as an oven, refrigerator, sink, or thermometer might not be readily available. In the absence of such standard equipment, following safe food handling practices becomes more difficult.

Several bacterial pathogens are commonly associated with outbreaks of foodborne illness. These include *Salmonella*, *Staphylococcus aureus*, *Clostridium botulinum* and *Clostridium perfringens* (CDC, 1990). In addition, several "new" bacterial pathogens have been identified as etiologic agents in foodborne illness. These pathogens are capable of growth at refrigeration temperatures below 45°F although they grow much faster at temperatures >45°F. Some of these "new" pathogens include: *Yersinia enterocolitica*, *Escherichia coli*, *Aeromonas hydrophilia* and *Listeria monocytogenes* (Corlett, 1989; Liston, 1989; IFT Expert Panel on Food Safety and Nutrition, 1988).

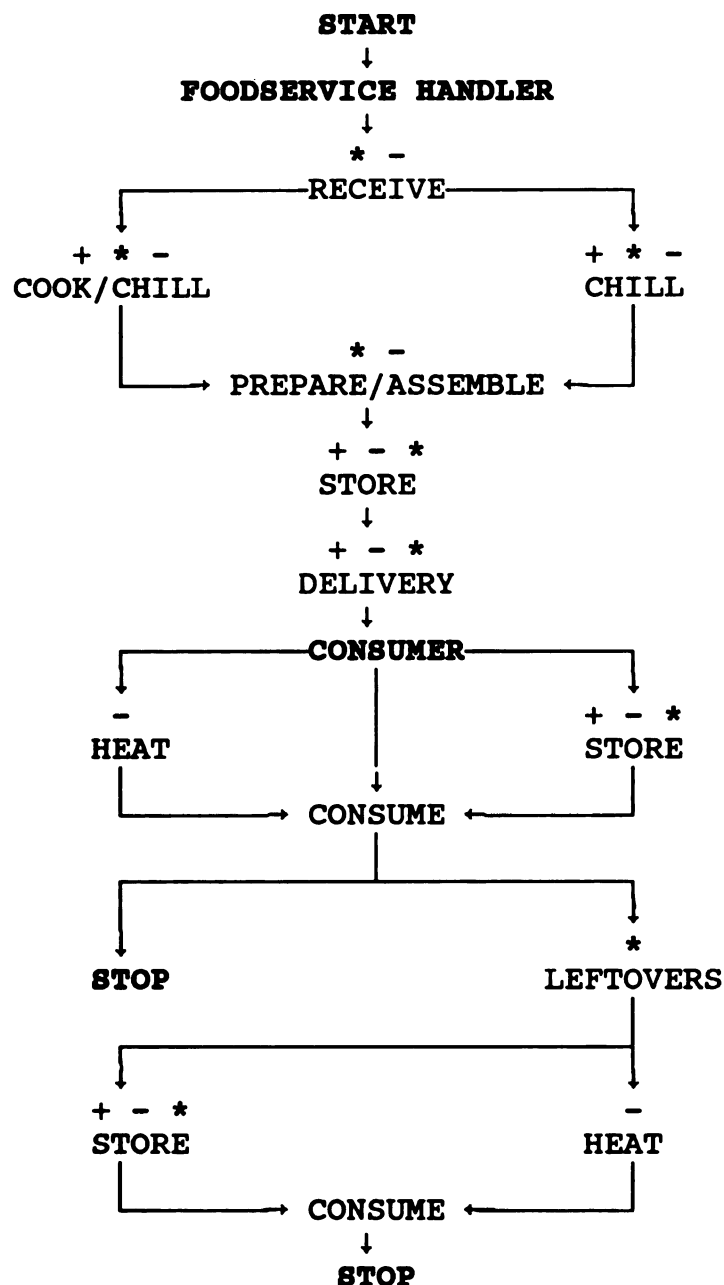
To help decrease the incidence of foodborne illness, the Hazard Analysis Critical Control Point (HACCP) system has been recommended (USDA/FSIS, 1989; IFT Expert Panel on Food Safety and Nutrition, 1988; Snyder, 1986). HACCP is a systematic safe food handling approach designed to increase the safety of food processing and preparation operations. While food processors and foodservice handlers may have some training in safe food handling, it is likely that consumers have not. Therefore, even if HACCP principles and other safe food handling practices are followed by food processors and foodservice handlers, there is still the potential for consumers to mishandle the food.

The risk of foodborne illness arising from mishandled food is a potential problem in any situation where food is provided to consumers (Bryan, 1988). Consumers of delivered food are an integral part of the food handling chain and are

involved with some of the process steps such as storage and reheating of food (Figure 1). The degree of risk associated with food handling varies with the food, the preparation steps, the duration of holding/storage, and transportation. Abuse at any step, such as time/temperature or improper handling of food between delivery and consumption, could cause a food to be unsafe for consumption.

In comparison to all of the information being gathered on foodborne disease outbreaks, there is relatively limited research about consumer knowledge and practices related to safe food handling (USDA/FSIS, 1989). Available research has shown that consumers are not always knowledgeable about safe food handling issues (Chin, 1992; Williamson et al., 1992; USDA/FDA, 1991). Consumer education on safe food handling is crucial if the rate of foodborne illness is to decrease (Rhodes, 1991; Corlett, 1989; IFT Expert Panel on Food Safety and Nutrition, 1988). However, before consumer education programs are developed, the foodservice industry must learn what consumers know about safe food handling as it relates to the storage and reheating of delivered food products in office settings (Schafer et al., 1993).

The objectives of this study were to: (1) assess consumer knowledge about safe food handling concepts related to office-delivered food, (2) determine if demographic characteristics of respondents were related to their safe food handling knowledge, (3) determine if consumers followed

**KEY**

- * Potential contamination hazard
- + Bacterial growth hazard
- Microbial survival likely

Figure 1. Flow chart of food handling steps for office-delivered food from foodservice receiving to consumer consumption.
(Adapted from IAMFES, 1991)

recommended safe food handling practices when office-delivered food was received, stored, and consumed and (4) assess consumer opinions related to safe food handling of office-delivered food.

2.0 LITERATURE REVIEW

Changes in eating preferences have increased concerns about the safe food handling of delivered food. Between 1973 and 1987, reported mishandling of food in commercial/institutional foodservice establishments (79%) and homes (21%) has contributed to outbreaks of foodborne illness from bacterial sources (Bean and Griffin, 1990). Results of foodborne illness, both financial and physical, can be detrimental to foodservice establishments and consumers (Roberts, 1989; Todd, 1989). Foodborne illness becomes an even greater issue with the recent identification of pathogenic bacteria that have the ability to grow at refrigeration temperatures (Ryser and Marth, 1989; IFT Expert Panel on Food Safety and Nutrition, 1988). The HACCP system is one approach that can help foodservice personnel and consumers involved with receiving and handling of delivered food. HACCP can help identify microbial hazards and decrease the potential for foodborne illness (Eck and Ponce, 1993; IAMFES, 1991).

2.1 Consumer Eating Preferences

Lifestyle and demographic changes have influenced the way consumers eat. Over the past 20 years, changes in eating preferences have contributed to a larger number of meals eaten away from home. These changes are reflected by the increased consumption of convenience foods and fast food preparation among consumers (Rush and Kochak, 1990). In 1970, foodservice sales were 42.8 billion; in 1990 they were 241.3 billion (NRA, 1990). This trend is partly due to the increased number of lunch options available to consumers (Conroy, 1988). These lunch options include: employee cafeteria/dining rooms, restaurants, deli/take-outs, convenience stores, vending machines, grocery stores, mobile caterers, and street vendors. During an average work week, 35% of daytime workers purchased their lunch or ate out, 35% brought lunch from home, 15% ate lunch at home and 14% skipped lunch (Conroy, 1988). In addition, men (57%) were more likely than women (47%) to patronize restaurants for lunch (NRA, 1991).

In-store delis are among the fastest growing segments in the foodservice industry (Annual Restaurant Growth Index Industry Report, 1992). In addition to in-store delis, sandwich shops have also shown growth potential (Rush and Kochak, 1990). Sandwich shops, such as "Subway," primarily produce sandwiches which are made to order while the consumer waits.

Mobile catering is a fairly new type of meal delivery. Deliveries are primarily to homes or the work place. Mobile

catering has been a small segment of the many lunch options available and includes "office catering" (Appendix A). Office catering has allowed individuals to order food, usually lunch, from an establishment and have the food delivered to their work place. This type of service is responsive to consumer changes in eating preferences (Appendix A).

With the change in eating preferences, came a shift in the types of food being prepared and consumed. Part of that shift included the increased consumption of fresh foods such as fruits and vegetables (Garg et al., 1990). In part, the increased consumption of fresh foods can be attributed to consumers' perception that fresh foods are more nutritious or healthy than frozen or canned foods (Garg et al., 1990).

Respondents for this study patronized Green Gourmet, a convenient office-delivery service that provided fresh foods at lunchtime.

2.2 Microbiological Concerns

The microbial safety of delivered fresh foods becomes a challenge to both consumers and the foodservice industry because fresh foods involve refrigeration without a heat treatment (Hurst and Schuler, 1992; Garg et al., 1990; Sawyer, 1990). Several pathogens have become more prevalent due to changes in the way foods are harvested, processed, distributed, prepared, and consumed (Cox, 1989). Some of these include *Yersinia enterocolitica*, *Escherichia coli*, *Aeromonas hydrophilia* and *Listeria monocytogenes* (Bean and

Griffin, 1990; Ryser and Marth, 1989; IFT Expert Panel on Food Safety and Nutrition, 1988). These pathogens are able to multiply at temperatures $<45^{\circ}\text{F}$, which increases the possibility for healthy food handlers to contaminate fresh food during handling and potentially increase the rate of foodborne illness in the United States (Bean *et al.*, 1990).

If raw foods have been mishandled and contaminated in the growing field, at harvest, during processing, or distribution, at the time of purchase, or by consumers after purchasing, pathogens could survive and multiply (Table 1). In a

Table 1. Multiplication of bacteria over time.
(Eck and Ponce, 1993)

TIME	NUMBER OF BACTERIA	TIME	NUMBER OF BACTERIA
0	1	5 hours	32,768
2 hours	64	6 hours	262,144
3 hours	512	7 hours	2,097,152
4 hours	4,096	8 hours	16,077,216

three-hour period, 1 bacterium becomes 512 bacteria, and in 8 hours becomes 16,077,216 bacteria (Eck and Ponce, 1993). This multiplication process takes place only under certain conditions. These conditions include moist foods with a water activity of $>.85$, a pH of >4.6 , and a specific temperature range of $45^{\circ}\text{--}140^{\circ}\text{F}$ (the so-called "danger zone") (Barrett, 1992). Foods with these conditions are termed "potentially hazardous foods". However, as mentioned earlier, several

pathogenic bacteria can grow at temperatures <45°F. This suggests that the "danger zone" temperature range of 45°-140°F should be changed to include temperatures as low as 40°F (Corlett, 1989; USDA/FSIS, 1989; IFT Expert Panel on Food Safety and Nutrition, 1988).

Potentially hazardous foods include any food that is made with or contains milk or milk products, eggs, poultry, meat, shellfish, edible crustacea, baked or boiled potatoes, cooked rice or beans, tofu or other soy protein foods, and other ingredients which are capable of supporting the growth of infectious or toxic microorganisms (Barrett, 1992). Most fruits and vegetables would be included as ingredients which are capable of supporting the growth of infectious or toxic microorganisms (Madden, 1992).

In relation to fresh produce, each step of the food handling chain, from receiving to consumption, will influence the microbiology and overall safety of fresh produce. It has been shown that improper handling and unsanitary equipment lead to increased populations of microorganisms in fresh fruits and vegetables (Brackett, 1992). The lack of safe food handling procedures, especially during processing steps such as cutting and peeling, can compromise food quality and safety.

Safety of delivered, fresh foods becomes an important issue because food must first be handled by foodservice personnel. Although routine sanitation inspections can help identify restaurants which are susceptible to foodborne

illness outbreaks, more education is needed to help prevent outbreaks of foodborne illness resulting from improper food handling practices within foodservice establishments (Burch and Sawyer, 1991; Irwin et al., 1989). Restaurants (n=28) with a history of poor sanitation inspection scores and violation of proper temperature controls of potentially hazardous foods were studied by Irwin et al., 1989. Results of the study indicated that restaurants with poor sanitation scores were five times more likely to have outbreaks of foodborne illness than restaurants (n=56) that had higher sanitation inspection scores. Similarly, restaurants with a history of violation of proper temperature controls of potentially hazardous foods were ten times more likely to have outbreaks of foodborne illness than restaurants without such histories.

In 1990 Speer and Kane found that 73% (n=49) of food protection directors surveyed believed that Food Protection Certification Programs for foodservice managers do improve food handling practices. However, only three states (6%) have a statewide mandatory certification program. To help increase safe food handling practices at the foodservice level, a mandatory certification program would need to be implemented in every state.

Educating consumers about safe food handling can be even more difficult than educating foodservice personnel because the public has not perceived microbiological hazards to be a high food safety risk (Auld, 1990; Bryan, 1988). Results from

the 1992 Trends Report (FMI, 1992) (n=1,000) showed consumer concerns related to food safety. Respondents indicated most concern about spoilage (36%), pesticides/residues/insecticides/herbicides (18%), product freshness/shelf-life/expiration date (12%), spoilage due to germs (15%), chemicals (13%), processing and food preparation (10%), improper packaging or canning (10%), quality control/improper shipping or handling (9%), and contamination from bacteria (9%). Further, it is important to note that the larger number of consumers (up from 27% in 1991) who were concerned about spoilage, were worried about contamination of food from bacteria (up from 3% in 1991).

Due to the prevalence of bacterial pathogens that grow at refrigeration temperatures, the awareness of potential outbreaks of foodborne illness associated with mishandled fresh foods has heightened. Potentially hazardous foods, which include fresh foods, are capable of supporting the growth of pathogenic bacteria. These potentially hazardous foods can be included as menu selections for delivered foods.

2.3 Foodborne Illness in the United States

Bacterial pathogens are the leading cause of foodborne illness in the United States (Bean et al., 1990). From 1973 through 1983, 7,458 outbreaks and 237,545 cases of foodborne illness were reported to the CDC in the United States (Bean and Griffin, 1990). The outbreaks were associated with bacterial, viral, parasitic, and chemical etiologic agents.

However, the etiologic agents were confirmed in only 2,841 outbreaks and 124,994 cases. Of those confirmed, bacterial pathogens were implicated in 66% of outbreaks and in 87% of cases (Bean and Griffin, 1990). The CDC has defined an outbreak as:

An incident in which 1) two or more persons experience a similar illness after ingestion of a common food, and 2) epidemiologic analysis implicates the food as the source of the illness (exception; one case of botulism or chemical poisoning constitutes an outbreak) (Bean et al., 1990).

Reported outbreaks of foodborne illness from 1973-1987 resulted from mishandling of food in commercial or institutional establishments (79%) or homes (21%) (Bean and Griffin, 1990). There were several factors that contributed to the occurrence of foodborne outbreaks between 1961 and 1976 (Bryan, 1980). In descending order, these factors included: (1) inadequate cooling, (2) lapse of a day or more between preparation and serving, (3) infected persons, (4) inadequate thermal processing, canning or cooking, (5) inadequate hot storage, (6) inadequate reheating, (7) ingesting contaminated raw food or ingredient, (8) cross-contamination, (9) inadequate cleaning of equipment, (10) obtaining food from an unsafe source, and (11) consuming leftovers.

More recently, four food handling practices have been identified as primary contributors to foodborne illness: (1) improper refrigeration or cooling of food, (2) improper hot holding or reheating of food, (3) infected foodservice worker

contaminating food they handle, and (4) failure to properly sanitize equipment and food contact surfaces after use (Barrett, 1992; CDC, 1990).

Between 1973 and 1987, specific food vehicles were implicated in 3,699 (50%) of 7,458 outbreaks (CDC, 1990). The food vehicles most often implicated were; finfish (15%), beef (9%), pork (7%), shellfish (6%), fruits and vegetables (5%), Chinese food (4%), turkey (4%), Mexican food (4%), chicken (3%), dairy products (3%), bakery products (3%), mushrooms (2%), nondairy beverages (2%), ice cream (1%), and eggs (1%). Of the 2,397 reported outbreaks between 1983 and 1987, 59 were caused by consumption of fruits and vegetables and 201 were attributed to consumption of meat and poultry (CDC, 1990).

The incidence of foodborne illness is actually much higher than reported by CDC. The Food and Drug Administration (FDA) and the CDC, have estimated that between 24 and 81 million cases of foodborne illness occur each year in the United States (Martin, 1991A; Archer and Kvenberg, 1985). The reported number of cases of foodborne illness represents only a small percent of the cases that actually occur (Bean and Griffin, 1990). Estimates show that only 1 person in 25 (at most) and 1 person in a 100 (at least) seeks medical attention when afflicted with a foodborne illness (Archer and Kvenberg, 1985).

When outbreaks are reported to the CDC, the etiologic agent might not be determined because adequate laboratory confirmation was not obtained. In 1987, 387 outbreaks were

reported to the CDC (1990) of which only 136 (35%) had the etiologic agent confirmed. A study conducted by Irwin et al. (1989) on routine restaurant inspections and the prediction of outbreaks of foodborne illness showed that unknown pathogens were responsible for the reported outbreaks in 22 of the 28 restaurants.

Additionally, the numbers reported from the CDC can be misleading for two reasons (Bean and Griffin, 1990). First, an outbreak reportedly caused by ice cream, for example, may have actually been caused by the raw eggs and/or milk it contained. Unless an individual ingredient can be specifically implicated as a source of illness, a broad food category will be associated with the outbreak. Second, if a food containing several ingredients does not fall under a specific food category such as ice cream, it can be recorded under the "other" category (Bean and Griffin, 1990).

Analysts predict that a restaurant will incur costs between \$1,500 and \$74,000 for medical claims, legal fees, and lost wages and sales for every customer afflicted with a foodborne illness (Roberts, 1989). Todd (1989) estimated that the average cost to a restaurant each time a customer is afflicted with a foodborne illness is \$190 to \$322,200. Overall annual costs related to foodborne bacterial diseases in the United States were estimated at \$4.8 billion (Roberts, 1989) to \$8.4 billion annually (Todd, 1989). The results of a foodborne illness can be detrimental to both restaurants and

consumers. Continued reporting of outbreaks indicates the need for safe food handling education.

2.4 Bacterial Pathogens and Foods Most Often Associated With Foodborne Illness

Meat and poultry have often been associated with cases of foodborne illness in the past (Bryan, 1980). Between 1968 and 1977, meat and poultry, and products containing them, represented 1,420 (54%) of the 3,668 total outbreaks reported. While 225 (8%) of the total number of outbreaks were attributed to foods in which meat or poultry may have been an ingredient (Bryan, 1980).

Meat, poultry and produce items that are classified as "potentially hazardous" do not always have the protection of natural barriers. Therefore, these foods become an even greater issue in the prevention of foodborne illness caused by delivered foods (Bean and Griffin, 1990).

Traditional processing, which includes canning and freezing, helps to eliminate potential pathogenic bacteria that could lead to foodborne illness (Garg et al., 1990). Fresh fruits and vegetables, however, are not subject to heat treatment, preservatives, and additives provided by traditional processing and may be subject to pathogenic bacteria. Some produce, however, contains natural barriers, such as peels, skin, and rind that help prevent against potentially pathogenic bacteria entering into and growing in the interior portion (Madden, 1992).

In 1983 *Salmonella* caused 39% of the bacterial foodborne disease outbreaks, *Staphylococcus aureus* (8%), *Clostridium botulinum* (7%) and *Clostridium perfringens* (3%) (Bean et al., 1990). Over a five-year period, *Salmonella* was responsible for the majority of reported bacterial disease outbreaks in the United States (57%) (Bean et al., 1990; CDC, 1990).

2.4.1 *Salmonella*

Salmonella, a generic name representing nearly 2,000 different serotypes, remains a problem in relation to outbreaks of foodborne illness in the United States (CDC, 1990). Outbreaks of *Salmonella* are most often associated with foods of animal origin, specifically beef, chicken, and dairy products (Bean and Griffin, 1990; IFT Expert Panel on Food Safety and Nutrition, 1988).

Ingestion of foods contaminated with *Salmonella* results in gastrointestinal upset and fever (Unklesbay et al., 1977). According to food safety experts, many cases of *Salmonella* may be misdiagnosed as intestinal influenza by consumers and physicians and are therefore underreported to the CDC (IFT Expert Panel on Food Safety and Nutrition, 1988). Although *Salmonella* can be destroyed when heated to 74°C (165°F) or higher (Unklesbay et al., 1977), it remains a cause in numerous outbreaks of foodborne illness due to improper heating (Bean and Griffin, 1992 and CDC, 1990).

Between 1973 and 1987, the majority of Salmonellosis outbreaks with reported causal factors (n=504) occurred as a result of improper holding temperature (83%), inadequate

cooking (67%), and contaminated equipment (63%) (Bean and Griffin, 1990). For many outbreaks, more than one factor was responsible.

When foodborne disease outbreak data was compared for 1973-75 and 1985-87, a 75% increase in the proportion of outbreaks and a 130% increase in the proportion of cases due to *Salmonella* were observed by Bean and Griffin (1990).

2.4.2 *Staphylococcus aureus*

Common reservoirs for *S. aureus* include the human nasal cavity, hair, and skin. Therefore, food handlers can easily contaminate food products with *S. aureus*. This pathogen is most often associated with meat (especially ham), dairy products, cream-filled baked goods, potato salad, high-protein leftover foods, and food mixtures.

Hassan et al. (1991) did, however, detect *S. aureus* in salad ingredients with the highest growth shown in croutons and green peppers. *S. aureus* strains grew rapidly in croutons during the first 12 hours and then declined rapidly after 24 hours. Green peppers showed growth of *S. aureus* up to the stage of enterotoxin production. Cell numbers decreased after 24 hours. Production of enterotoxins in croutons and green peppers was negative.

Similar results were reported by Gourama et al. (1991) where growth of *S. aureus* was found on salad bar ingredients. These ingredients included canned carrots, french beans, plain croutons, and green peppers. Again, there was no correlation

between bacterial growth on foods and production of enterotoxins.

Between 1983 and 1987, 47 (7.8%) of the 600 reported bacterial foodborne outbreaks in the United States were caused by *S. aureus* (Bean et al., 1990). Between 1973 and 1987, the majority of outbreaks of *S. aureus* where causal factors were reported (n=272) occurred as a result of improper holding temperature (98%), poor personal hygiene (71%), and contaminated equipment (43%) (Bean and Griffin, 1990). For many outbreaks, more than one factor was responsible.

2.4.3 *Clostridium botulinum*

Between 1973 and 1987, there were 231 outbreaks (8% of the total outbreaks) of botulism in the United States. Outbreaks in which causal factors were reported (n=69) found that botulism, caused by *Clostridium botulinum*, resulted from inadequate cooking (91%) and improper holding temperature (34%) (Bean and Griffin, 1990). For many outbreaks, more than one factor was responsible.

Present in both soil and in the environment, *Clostridium botulinum* has been isolated in fish (Baker et al., 1990), fresh pasta (Glass and Doyle, 1991) and vegetables (Lund, 1990). Other foods, such as meat products, fruits, condiments, and dairy products, have also been implicated in outbreaks of botulism (IFT Expert Panel on Food Safety and Nutrition, 1988). Botulism is also a concern in minimally processed produce (Brackett, 1992).

Foodborne botulism results from contamination of food in which *Clostridium botulinum* has grown and produced a toxin. Outbreaks might be a result of raw food materials coming in contact with processed foods or by contamination of foods after processing. Neoproteolytic types can grow between 3.3°C (38°F) and 45°C (113°F) with optimum growth and toxin production at 30°C (86°F) (IFT Expert Panel on Food Safety and Nutrition, 1988).

2.4.4 *Clostridium perfringens*

Since the early 1960's the number of cases of food poisoning caused by *Clostridium perfringens* has increased dramatically. Between 1973 and 1987, *Clostridium perfringens* represented 190 (7%) outbreaks and 12,234 (10%) cases (Bean and Griffin, 1990).

Type A strains, usually found in soil, cause virtually all cases of foodborne illness related to *Clostridium perfringens* (Lund, 1990). The most common food vectors are meat and poultry (IFT Expert Panel on Food Safety and Nutrition, 1988). *Clostridium perfringens* was isolated from samples of ground meat dishes and chick peas from a vending operation (Bryan et al., 1992). Results of this study indicated spore survival after cooking and germination during the display period. Nine of 21 (43%) samples of food tested positive for *Clostridium perfringens*.

Clostridium perfringens is most often associated with food prepared in foodservice establishments including restaurants, institutions, hospitals, factories, schools, and

caterers (Lund, 1990; IFT Expert Panel on Food Safety and Nutrition, 1988). This organism can multiply rapidly with an optimum growth range of 15-20°C.

In addition to the more common pathogenic bacteria associated with outbreaks of foodborne illness, several pathogens, some of which multiply at refrigeration temperatures, have increased the incidence of foodborne illness (Cox, 1989). These pathogens continue to be a public health concern and are addressed in the next section.

2.5 Bacterial Pathogens That Grow at Temperatures < 45°F

Lately, other pathogenic bacteria have been identified as important agents of foodborne illness (Ryser and Marth, 1989; IFT Expert Panel on Food Safety and Nutrition, 1988). These emerging pathogenic bacteria can grow at temperatures <45°F. In the past, most bacterial pathogens identified in foodborne outbreaks were mesophiles with an optimum growth temperature of 90°F to 120°F. Since *Yersinia enterocolitica*, *Escherichia coli*, *Aeromonas hydrophilia* and *Listeria monocytogenes* have been shown to grow at colder temperatures (<45°F), they are being identified more often as the etiologic agent associated with outbreaks of foodborne illness. They are more prevalent because of (1) changes in eating patterns, (2) changes in perception and awareness of what constitutes hazards, risks and hygiene, (3) demographic changes, (4) changes in primary food production, (5) changes in food processing technology,

- (6) changes in handling and food preparation practices, and
- (7) changes in the behavior of microorganisms (Cox, 1989).

The following subsections cite literature on pathogens that have recently been identified as etiologic agents in foodborne illness. The primary focus of the discussion is temperature ranges which promote the growth of such pathogens and subsequent outbreaks.

2.5.1 *Yersinia enterocolitica*

This organism is a facultative anaerobic, gram-negative, heat-tolerant psychrotrope that will grow in a temperature range of 0° to 45°C (32° and 113°F). Optimal growth range is 22° to 29°C (72° to 84°F) (Ryser and Marth, 1989).

Yersinia enterocolitica has been isolated in a variety of animals. However, only *Yersinia enterocolitica* emanating from swine has been identified as a human pathogen (Toma and Deidrick, 1975). Even though no outbreaks have been directly associated with swine, Hanna *et al.* (1977) showed that raw pork stored at 7°C (44.5°F) could grow a few hundred *Yersinia* cells to millions/gram within ten days.

Yersinia also grows well in meat, seafood, and milk at refrigeration temperatures (Lechowich, 1988). Chocolate milk, pasteurized milk, and tofu packed in unchlorinated spring water have all been vehicles of outbreaks (IFT Expert Panel on Food Safety and Nutrition, 1988).

Only four reported foodborne outbreaks, three from milk and one from tofu, have been associated with *Yersinia* in the United States from 1973 through 1987 (Bean and Griffin, 1990;

Lechowich, 1988). However, *Yersinia* remains a concern of food microbiologists and public health authorities.

2.5.2 *Escherichia coli*

This pathogen is most often associated with ground beef, raw milk, and chicken (Doyle, 1990; Ryser and Marth, 1989). It is also a concern in minimally processed produce (Brackett, 1992). Contaminated water, either by direct consumption or presence in foods, is the main vehicle for transmission (Doyle, 1990).

A gram negative, non-spore forming motile rod, that is capable of growth at 34-114°F (Lechowich, 1988), *Escherichia coli* (*E. coli*) has been the cause of many cases of diarrheal disease in the United States (Doyle, 1990). Between 1973 and 1987, *E. coli* represented 10 (<1%) outbreaks and 1,187 (1%) of all cases of foodborne illness in the United States. However, in three of ten reported *E. coli* outbreaks with reported causal factors, 50% were due to inadequate cooking (Bean and Griffin, 1990).

Escherichia coli (0157:H7) was first established in 1982 as the cause of two outbreaks of foodborne illness. In Oregon, 26 cases were confirmed (Riley et al., 1983) and in Michigan, 21 cases (Wells et al., 1983). In both outbreaks, ground beef sandwiches were implicated as the food vector.

The majority of foodborne illness outbreaks reported since 1982 have either implicated or associated undercooked ground beef as the primary source of infection. Recently, *E. coli* was the source of infection in an outbreak associated

with undercooked hamburgers at "Jack in the Box" restaurants in Washington State and other Pacific Northwest states. The outbreak resulted in 350 cases of foodborne illness and two fatalities (Michigan Beef Industry Commission, 1993). However, there are still many questions regarding the significance of *E. coli* as a foodborne pathogen (Ryser and Marth, 1989).

2.5.3 *Aeromonas hydrophilia*

This pathogen has a psychrophilic growth range of 38-107°F (3-42°C) , with optimal growth at room temperature of 32-50°F (0-10°C) (Snyder and Poland, 1991; Lechowich, 1988). Since *A. hydrophilia* can grow at refrigeration temperatures, the recommended "safe" storage temperature of 45°F (7°C) has been questioned. The long-term (7 days) storage of food at refrigeration temperatures of 45°F and above could contribute to foodborne illness due to *A. hydrophilia* (Snyder and Poland, 1991; NRA, 1987).

The source of *A. hydrophilia* is animal and human fecal matter. It is most often associated with meat, poultry, fish, shellfish, dairy products, fresh fruits and vegetables, and prepared food products (Snyder and Poland, 1991; Lechowich, 1988).

In a study conducted by Palumbo *et al.* (1985) *A. hydrophilia* was detected in virtually all retail red meats, chicken, raw milk, and seafood sampled. In general, the counts increased 10- to 1,000-fold after refrigerated storage (5°C) for seven days. Results indicated that *A. hydrophilia*

is capable of growth in foods of animal origin during long-term storage.

A. hydrophilia was isolated in retail grocery store produce. Produce items included parsley, spinach, celery, alfalfa sprouts, broccoli, and lettuce (Callister and Agger, 1987). Two different strains showed growth in one day at 35 and 22°C. Growth was slowed at 12°C, but all strains grew within 48 hours.

2.5.4 *Listeria monocytogenes*

Recently, *Listeria monocytogenes* has gained considerable attention from epidemiologists and microbiologists. *L. monocytogenes* has been shown to cause abortion in pregnant women and meningitis in newborn infants and immunocompromised adults (Marth, 1988). The genus *Listeria* consists of five species, of which *L. monocytogenes* is the only proven human pathogen. This organism is a non-spore-forming, psychrotropic bacterium that grows between 34° and 113°F (1-45°C) (Brackett, 1988).

L. monocytogenes is widely distributed in the environment and has been isolated in a variety of different sources including feces from healthy human beings and animals, soil, normal and mastitic cow's milk, and improperly fermented silage (Brackett, 1988).

In the first major outbreak of listeriosis, cabbage that had been fertilized with sheep manure was implicated as the food vector (Schlech et al., 1983). Other implicated foods

include vegetables, milk, cheese, and fermented meats (Ryser and Marth, 1989).

Listeriae have been identified in food processing environments on items such as refrigerators and dishcloths (Cox et al., 1989). The presence of *Listeriae* has also been found on "ready to eat" pre-cooked, grilled chicken (Kerr et al., 1990). Longer storage of products such as soft cheeses, meats, salads, and vegetables, could increase potential problems with psychrotropes such as *Listeria* (Cox, 1989). Although *Listeriae* have been identified in outbreaks of foodborne illness, little is known about causation of the disease (Cox, 1989).

2.6 HACCP: An Approach to Reduce the Risk of Foodborne Illness

HACCP is one approach that can help identify microbiological hazards at an early stage in food systems. HACCP was designed to be a self-inspection process that highlights potentially hazardous foods and how to handle them safely in food handling environments (Eck and Ponce, 1993; USDA/FSIS, 1989).

Pathogens associated with foodborne illness have been recognized as such for years. HACCP has been used as a method to control the growth of bacterial pathogens (Unklesbay et al., 1977). However, cases of foodborne illness continue to be reported to the CDC and are a result of negligence and/or

lack of safe food handling knowledge and/or practices (CDC, 1990; Unklesbay et al., 1977).

Food has been handled extensively at each step in the food chain before it is received by consumers. Foodservice handlers not trained to properly handle foods can increase the risk of foodborne illness of customers (Burch and Sawyer, 1991; Labuza, 1989). Add the untrained consumer to the untrained foodservice handler and the potential for microbiological hazards significantly increases (Figure 1).

HACCP was intended for use with various foodservice systems such as commissary, conventional, and ready-to-serve operations (Eck and Ponce, 1993). However, delivered food involves both the foodservice handler and the consumer in the food handling chain (Figure 1). Many critical control points are encountered within the food handling chain. Each step in the chain requires accurate knowledge and appropriate practices related to safe food handling.

Foodservice handlers are exposed to a variety of critical control points in the food handling chain. These include receiving, cook/chill methods, chilling, preparation/assembly, storage, and distribution. Contamination can occur during receiving, the cook/chill process or preparation/assembly. Bacterial growth can occur during the cook/chill procedure, chilling, storage, or distribution. Survival of pathogenic bacteria is likely throughout the food handling chain (Figure 1).

Equipment used during processing and production is also included as a critical control point. In one study conducted by Garg et al. (1990), microbial counts were taken of vegetables during a variety of processing steps. Conveyor belts, centrifugation, and filling operations were not found to be sources of contamination. However, during the shredding process, microflora increased from 2.0×10^4 to 7.8×10^5 in cabbage and from 1.8×10^4 to 1.4×10^6 in lettuce. *Pseudomonas* was detected as the most predominant microflora in samples of spinach, cauliflower, and carrots.

Catering establishments have been implicated as vehicles in outbreaks of foodborne disease (CDC, 1990). Consequently, Bryan et al. (1981) conducted a hazard analysis which evaluated product temperatures throughout processing and assembly, measured pH, and tested products for foodborne bacteria within a catering establishment. Results indicated that the number of foodborne pathogens isolated from product samples were insignificant. Although this study indicated that safe food handling practices were employed, consumers still have the potential to mishandle the food. Therefore, handling instructions and associated foodborne illness risks should be communicated to consumers (Bryan et al., 1981).

A study conducted by Wyatt (1979) indicated a need for training programs in sanitation and safe food handling procedures for food retail employees at all levels. Similarly, Burch and Sawyer (1991) determined that safe food

handling training was needed for convenience store managers and employees.

Consumers who receive delivered food are exposed to certain critical control points: the storage, heating, and handling of leftovers. Contamination can occur during storage and handling of leftovers. Bacterial growth can occur during improper storage, and the survival of some pathogens is likely during heating and storage. With fresh, delivered foods and the identification of pathogens that grow at refrigeration temperatures, exclusion of consumers from the HACCP system puts consumers at greater risk of foodborne illness. Studies have shown that consumers alone cannot be responsible for safe food handling (Chin, 1992; Li, 1992; Williamson et al., 1992).

The question of "who holds responsibility for foodborne illness resulting from consumer mishandling?" remains (Brackett, 1992). Is the industry responsible because they allowed pathogenic bacteria to grow and remain in food provided to consumers or should consumers be responsible for safe food handling? HACCP has traditionally been used by food microbiologists, food processors, and foodservice handlers. However, tailored HACCP programs have been recommended specifically for produce processors (Hurst and Schuler, 1992) and for the production of wrapped, ready-to-eat sandwiches (Felix, 1992).

3.0 MATERIALS AND METHODS

The purpose of this study was to assess the safe food handling knowledge, practices, and opinions of consumers who ordered food from Green Gourmet, a campus-wide lunch delivery service at Michigan State University (MSU). The procedures followed to achieve this purpose are described in this section.

3.1 Green Gourmet

Green Gourmet was developed as a lunch delivery/take-out service which provided healthful lunch selections within the MSU community (Appendix A). The menu items were prepared at the MSU Union kitchen; delivery to MSU offices was available.

Green Gourmet was initially test marketed in the spring of 1989 for MSU employees who worked in either the Food Science Building or Agriculture Hall on the MSU campus. Results of the test market showed a strong perceived consumer need for a campus lunch delivery/take-out service that was convenient and provided nutritious meals. During the summer of 1989, this lunch service was extended to all MSU buildings.

The four main objectives of the Green Gourmet lunch service were:

1. To provide a convenient lunch service for employees at MSU.
2. To provide nutritious lunch options to vending machines.
3. To provide a nutritional analysis of Green Gourmet menu items to increase the nutrition knowledge of MSU employees and enable them to make informed decisions about healthful food choices.
4. To provide a gourmet environment which includes appealing food presentation and personal service.

3.2 Sample Selection

The sampling frame for the present study was the subset of MSU employees who had received lunch prepared by Green Gourmet between January 2, 1990 and March 18, 1991. There were 12,103 employees (excluding student employees) at MSU during the 1989-90 academic year. These employees represent the population of all possible customers for Green Gourmet. To identify the MSU employees who had received and/or eaten a lunch from Green Gourmet, the list of names of people who had ordered a Green Gourmet lunch January 2, 1990 through March 18, 1991 was compiled from Green Gourmet order forms (Appendix B).

The Green Gourmet order form allowed an individual or group of individuals to place an order. When an order was being placed for an individual, their name was recorded at the top of the order form. If a group of two or more individuals were placing an order, the names of the people for whom the

lunch items were ordered was written at the bottom of the order form. Therefore, the sample for the present study consisted of the person who placed the order as well as the name or names of the people for whom a lunch was ordered.

All Green Gourmet customers included in this sample were mailed a questionnaire for this study (Appendix C). The data collection period was limited to 15 months to decrease the effect of memory as a threat to validity. A total of 245 questionnaires were mailed out for this study.

3.3 Pilot Testing Questionnaire

Only MSU employees who had received food from Green Gourmet at lunchtime between January 1990 and February 1991 were included in the pilot test. Using a table of random numbers, a total of 25 Green Gourmet customers were selected from the sampling frame to participate in the pilot testing of the questionnaire. These participants were not included in the final data collection phase of this study. Participants were asked to complete a questionnaire (Appendix D) and provide feedback on the length, content, and clarity of the questionnaire. Additional comments or suggestions that would improve the quality of the questionnaire were also requested. Twenty-five questionnaires were mailed; eleven were completed and returned (44% response rate).

The pilot test (n=25) was conducted in February of 1991. Responses were evaluated by reviewing the consistency between questions and the frequency of "I do not know" responses.

Length, content, and clarity were evaluated based on responses to open-ended questions.

An item analysis was conducted to assess reliability, difficulty and discrimination of five knowledge questions (Table 2) (Carmines and Zeller, 1985). The mean score of the ten persons who responded to the five knowledge questions for the pilot test was 2.5 (50%).

The reliability (Kuder Richardson Reliability #20) of this five-question scale was 0.47. Reliability in this research referred to whether the instrument discriminated between masters (upper group scorers) and non-masters (lower group scorers). The reliability score was influenced by the total number ($n=5$) of items on the questionnaire that assessed knowledge.

The difficulty of individual questions ranged from 10-90, with a mean of 50. The difficulty index is defined as the proportion of total respondents who selected the correct response. The mean difficulty score was influenced by low scores on two items (questions 4 and 5). These questions were more difficult than the multiple choice items (questions 1, 2, and 3) because they were open-ended questions. These open-ended questions required respondents to identify the minimum reheating temperature required for leftovers (165°F) and the maximum safe operating temperature of a refrigerator (40°F). Although these questions were difficult, they were considered necessary and appropriate for this research.

Table 2. Item analysis results from the pilot test of knowledge questions.

Item/Topic	Difficulty*	Discrimination**
1. food sources of bacteria	60	33
2. identification of unsafe food	90	33
3. conditions for bacterial growth	70	33
4. proper reheating of leftovers	10	33
5. proper refrigeration temperature	20	33

* proportion of respondents who selected the correct response

** difference between the percentage of the upper group (top 27%) and the percentage of the lower group (bottom 27%)

The mean discrimination level was 33. The discrimination index is defined as the difference between the proportion of high scorers (upper 27%) who selected the correct response minus the proportion of low scorers (lower 27%) who selected the correct response. The ability of the questions to discriminate between masters (high scorers) and nonmasters (low scorers) was acceptable for all knowledge questions.

Based on the results of the item analysis, all questions were considered appropriate regarding level of difficulty and discrimination for inclusion in the final version of the questionnaire. Revisions were made and the final questionnaire was printed (Appendix C).

3.4 Questionnaire Development

A booklet-style questionnaire was designed for use in this study (Appendix C). The questionnaire contained five questions about safe food handling knowledge, seven questions concerning practices related to safe food handling, and three questions to assess opinions of the respondents on safe food handling. In addition, nine demographic questions were included at the end of the questionnaire.

A cover letter was enclosed with the questionnaire (Appendix E). The letter explained the purpose of the study and the issues addressed in the body of the questionnaire. Additionally, a University Committee on Research Involving Human Subjects (UCRIHS) consent form was also distributed with each questionnaire (Appendix F). Participants were asked to

complete the consent form before proceeding with the questionnaire and to return the form with the questionnaire. The questionnaire, cover letter, and consent form were reviewed and approved by the UCRIHS at MSU (Appendix G).

3.5 Distribution of Questionnaires

For this study, 245 questionnaires were distributed in April of 1991 via MSU campus mail. To increase the likelihood that the questionnaires were sent to the correct campus address, addresses of Green Gourmet users in the sample were verified using the current MSU directory (September 1990). This method was preferred rather than using the campus address appearing on the Green Gourmet order form because that address might not have been the current office address for participants. The participants were requested to return the completed questionnaire using campus mail. Of the 245 questionnaires initially mailed, 68 were returned (28% initial response).

3.6 Follow-Up

Two types of follow-up were conducted to increase the response rate in this study: (1) telephone calls and (2) a second mailing which included a revised cover letter and a second copy of the questionnaire.

The telephone call follow-up was conducted on April 26, 1991, three weeks after the first questionnaires were mailed. Green Gourmet customers who did not respond to the initial

mailing, were contacted by telephone. Of the 177 remaining participants, 93 (52%) were able to be contacted by telephone. Of those contacted, 11 (12%) were uninterested in completing a questionnaire and 25 (27%) were unavailable to participate in the study (two on military leave, two on sabbatical, three on maternity leave, three retired, four out-of-town, five unavailable, and six no longer working at MSU). Of the 84 remaining participants who were not personally contacted, a message was left with 46 which encouraged them to return the questionnaire; 38 were unable to be contacted.

As a result of the telephone call follow-up, 43 additional questionnaires were mailed. Mailed questionnaires were requested or were part of the 38 who were unable to be contacted. The follow-up mailing included a cover letter explaining the purpose of the follow-up and a replacement questionnaire. As a result of the telephone call follow-up and second mailing, an additional 64 surveys were returned (54% response rate).

To calculate an accurate response rate, noneligible and unavailable participants were removed from the sample. Noneligible participants (17) were defined as people who had never received and eaten an office-delivered lunch from Green Gourmet between January 2, 1990 and March 18, 1991. Unavailable participants (25) were defined as people who were unable to participate in the study because they were on military or maternity leave, on sabbatical, retired from or were no longer working at MSU, or were out-of-town or

unavailable at the time of the study. Of the original 245 participants, 17 were classified as noneligible and 25 as unavailable resulting in a total sample size of 203. The adjusted response rate was 65% (n=132).

3.7 Statistical Analysis

The Statistical Package for the Social Sciences (SPSS/PC+, version 4.0.1, 1990) was used for all analyses in this study. A frequency (% response) was calculated for all questions. The safe food handling knowledge responses were scored as correct or incorrect. For each of the five knowledge questions, a point was given for each correct answer. A total score of five was possible, with a score of 0 representing no correct answers and 5 representing all questions answered correctly (minimum = 0, maximum = 5). For safe food handling knowledge, the difference in score distributions among age, gender, educational level, and race was analyzed using cross tabulations. Responses to each of the safe food handling practice questions were categorized as desirable or undesirable. The level of significance selected for all statistical analyses was $P \leq 0.05$ (significance designated by *).

4.0 RESULTS AND DISCUSSION

The results of the questionnaire were analyzed to determine: (1) if participants were knowledgeable about safe food handling concepts related to office-delivered food; (2) if participants followed safe food handling practices when an office-delivered lunch was received, eaten, or stored; and (3) respondents' opinions related to safe food handling. Results were also analyzed to determine if the demographic characteristics of respondents were related to their safe food handling knowledge.

4.1 Demographics of Respondents

Demographic data of the 132 respondents are presented in Table 3. For this report, results related to race were not used for statistical comparisons due to the high number of white respondents (93.1%). However, data on race were included in the tables for informational purposes.

Those with the highest rate of response were 40-44 years of age (n=27, 20.6%). The demographic age group between 20-24 years of age constituted the smallest group of respondents (n=3, 2.3%). Similar results were found by Williamson et al. (1992) who reported results of a survey on home food preparation practices (n=869). Most of the respondents in the

Table 3. Demographic data of respondents to a questionnaire on safe food handling knowledge, practices and opinions of consumers who received office-delivered food at lunchtime.

DEMOGRAPHIC VARIABLE	FREQUENCY (n) *	PERCENT (%)
<u>AGE</u>		
20-24	3	2.3
25-29	15	11.5
30-34	12	9.2
35-39	19	14.5
40-44	27	20.6
45-49	20	15.3
50-54	16	12.2
55-59	12	9.2
60 or older	7	5.3
TOTAL	131	100.0
<u>GENDER</u>		
Female	101	77.1
Male	30	22.9
TOTAL	131	100.0
<u>RACE**</u>		
Black	4	3.1
Hispanic	3	2.3
White	121	93.1
Other***	2	1.5
TOTAL	130	100.0
<u>LEVEL OF EDUCATION COMPLETED</u>		
High school graduate	8	6.2
Some college	34	26.2
College graduate, associates degree	8	6.2
College graduate, Bachelors degree	21	16.2
Some graduate school or professional school	9	6.9
Graduate school or professional school graduate	50	38.5
TOTAL	130	100.0

* = demographic questions were not completed by all respondents (n=132)

** = Asian/Pacific Islander and American Indian/Alaskan Native respondents = 0

*** = both responses to other were "European"

study by Williamson et al. (1992) were 35-44 years of age (24%); the demographic age group which responded least were those 24 years old and less (4%).

Of those who responded to the present study, 77.1% (n=101) were females and 22.9% (n=30) were male. Other studies on safe food handling have also shown a higher number of female respondents (Chin, 1992; Woodburn and Van DeRiet, 1985).

Data on level of education completed by respondents is also reported in Table 3. Most respondents indicated they had received a graduate or professional degree (n=50, 38.5%). Eight (6.2%) respondents indicated they had at most a high school degree. Other studies conducted on similar topics showed that most respondents had only a high school degree (Woodburn and Van DeRiet, 1985; Jones and Weimer, 1977).

The majority of respondents in the present study were white (n=121, 93.1%). The smallest number of respondents (n=2, 1.5%) were categorized as "other" and identified as "European."

When asked "have you ever received information on safe food handling?" (Appendix C, question 22), 51.5% responded "yes" and 48.5% responded "no" (n=132). Respondents were then asked to identify the sources from which they obtained information on safe food handling (Appendix C, question 23). Primary sources indicated were magazines (31.1%), family and friends (25%), and newspapers (24.2%). Similar results were found by Chin (1992) when third-grade teachers in Michigan

(n=439) were surveyed regarding safe food handling knowledge. Sources from which teachers obtained safe food handling information were most often newspaper/magazines (66%) and friends and family (40.4%). Gravani et al. (1992) indicated that respondents (n=869) to a Cornell University survey on consumer food safety knowledge felt that newspapers (75%), magazines (75%), and health professionals (75%) were the most reliable sources for food safety information.

4.2 Knowledge of Safe Food Handling

The first research objective of this study was to assess consumer knowledge about safe food handling concepts related to office-delivered food. To determine safe food handling knowledge, respondents were asked to answer five questions--two on causes of foodborne illness (Appendix C, questions 8 and 10) and three on temperature control (Appendix C, questions 9, 13 and 14). Table 4 lists the results of the safe food handling knowledge question responses of all respondents. Most respondents were knowledgeable about causes of foodborne illness but did not know the answers to questions related to temperature control.

Table 4. (p.1 of 4) Safe food handling knowledge questions: frequency and percent of responses.

QUESTION & RESPONSES	FREQUENCY (n)	PERCENT (%)
Q8-Which of the following can carry harmful bacteria that cause foodborne illness?		
A. Fresh fruits.....	0	0
B. Fresh vegetables.....	0	0
C. Healthy people.....	0	0
D. Raw chicken Breast.....	36	28.6
*E. All of the above.....	82	65.1
F. None of the above.....	0	0
G. I do not know.....	8	6.3
Missing cases.....	6	4.5
TOTAL VALID CASES.....	126	100.0
Q9-Which of the following foods is microbiologically safe to consume after sitting out at room temperature for more than two hours?		
A. Roast beef sandwich.....	4	3.1
B. Pasta salad.....	2	1.5
C. Vegetable salad.....	11	8.4
D. All of the above.....	9	6.9
*E. None of the above.....	94	71.8
F. I do not know.....	11	8.4
Missing cases.....	1	.8
TOTAL VALID CASES.....	131	100.0

* = correct response

Table 4. (cont'd.-p.2 of 4)

QUESTION & RESPONSES	FREQUENCY (n)	PERCENT (%)
Q10-Certain types of bacteria which cause food poisoning can grow:		
A. At refrigerator temperatures.....	0	0
B. At room temperature.....	34	25.8
*C. Both A and B are <u>Correct</u>	88	66.7
D. Both A and B are <u>incorrect</u>	0	0
E. I do not know.....	10	7.6
Missing cases.....	0	0
TOTAL VALID CASES.....	132	100.0

* = correct response

Table 4. (cont'd.-p.3 of 4)

QUESTION & RESPONSES**	FREQUENCY (n)	PERCENT (%)
Q13-Leftover delivered lunch entrees that are to be served hot should be reheated to an internal temperature (°F) of:		
120.....	1	.8
140.....	4	3.0
150.....	2	1.5
160.....	1	.8
*165.....	1	.8
170.....	2	1.5
180.....	4	3.0
190.....	1	.8
212.....	2	1.5
260.....	1	.8
350.....	3	2.3
I do not know.....	109	83.2
Missing cases.....	1	.8
TOTAL VALID CASES.....	131	100.0

* = correct response

** = This was an open-ended question; responses listed were written in the survey by respondents.

Table 4. (cont'd.-p.4 of 4)

QUESTION & RESPONSES**	FREQUENCY (n)	PERCENT (%)
Q14-A refrigerator should operate at a temperature (°F) no higher than:		
4.....	1	.8
32.....	1	.8
33.....	1	.8
34.....	2	1.5
35.....	5	3.8
38.....	4	3.1
39.....	1	.8
*40.....	31	23.8
42.....	1	.8
43.....	1	.8
45.....	9	6.9
48.....	2	1.5
50.....	1	.8
I do not know.....	70	53.8
Missing cases.....	2	1.5
TOTAL VALID CASES.....	130	100.0

* = correct response

** = This was an open-ended question; responses listed were written in the questionnaire by respondents.

4.2.1 Causes of foodborne illness

When asked "Which of the following can carry harmful bacteria that cause foodborne illness?" (Appendix C, question 8), 65.1% of respondents knew that fresh fruits and vegetables, healthy people, and raw chicken breast can carry harmful bacteria that could cause foodborne illness (Table 4). However, 28.6% selected only the response "raw chicken breast"; 6.3% indicated that they did not know the answer.

Recently, fruits and vegetables have received a considerable amount of attention in relation to food safety. The potential for microbial contamination in produce is considered high (Madden, 1992). Contamination could occur from a variety of conditions to which produce are exposed. These conditions include growth, harvest, and method and duration of distribution.

The knowledge question, "Certain types of bacteria which cause food poisoning can grow:" (Appendix C, question 10) was answered incorrectly by almost 26% of respondents (Table 4). These respondents indicated that bacteria can grow only at room temperature and not at refrigerator temperatures. Another 7.6% did not know the answer; 66.7% responded correctly. Numerous studies have shown that pathogenic bacteria can grow at refrigeration temperatures (Gourama et al., 1991; Doyle, 1990; Corlett, 1989; Cox, 1989; Moberg, 1989; IFT Expert Panel on Food Safety and Nutrition, 1988; Lechowich, 1988).

4.2.2 Temperature control

For the knowledge question, "Which of the following foods is microbiologically safe to consume after sitting out at room temperature for more than two hours?" (Appendix C, question 9), nearly 3/4 of respondents (71.8%) knew that a roast beef sandwich, pasta salad, and vegetable salad were probably not microbiologically safe to consume after sitting out at room temperature for more than two hours (Table 4). However, 19.8% answered incorrectly and 8.4% did not know the answer.

The knowledge question, "Leftover delivered lunch entrees that are to be served hot should be reheated to an internal temperature of:" (Appendix C, question 13), was answered correctly by one (0.8%) respondent, and 109 respondents (83.2%) did not know the answer (Table 4). A suggested improvement for future research would be to accept a range (ie. 160-165°F) as a correct response. For the purposes of this study, one answer (165°F) was accepted as the correct response.

Heating food to an internal temperature of 165°F (74°C) destroys most vegetative cells present in foods (Unklesbay et al., 1977). Heating does not always destroy bacterial spores, but the viable population of bacteria is reduced, and the possibility of foodborne illness is minimized.

The knowledge question, "A refrigerator should operate at a temperature no higher than:" (Appendix C, question 14) was answered correctly (no higher than 40°F) by 31 (23.8%) respondents (Table 4). Seventy respondents (53%) did not know

the answer. Similar results were obtained by Gravani et al. (1992). In their study, 42% of respondents from a national consumer survey did not know the maximum safe operating temperature for a refrigerator.

The public health code of Michigan (MEHA, 1989) identifies 45°F as a safe temperature for cooked foods that are to be served cold. In order to maintain food temperature at 45°F or less, the United States Department of Agriculture (USDA) and Food Safety and Inspection Service (FSIS) (1989) have recommended that refrigerators should operate at a maximum of 40°F for optimal safety. Similarly, the Food Marketing Institute (1989), recommends that cooked foods that are to be served cold, should be held at 40°F or below while in a refrigerator.

4.2.3 Safe food handling knowledge scores and mean scores

To further examine safe food handling knowledge, the five knowledge questions (Q8, Q9, Q10, Q13, and Q14) for this study were used to describe the level of safe food handling knowledge among respondents. Answers were coded to indicate a correct or incorrect response. Safe food handling knowledge scores and mean score results are shown in Table 5.

Respondents had an overall (n=132) mean knowledge score of 2.2 (44% correct) (Table 5). Of the 132 respondents, eight (6.1%) answered all five knowledge questions incorrectly, 30 (22.7%) answered one question correctly, 34 (25.8%) answered two questions correctly, 42 (31.8%) answered three questions correctly, 18 (13.6%) answered four questions correctly, and

Table 5. Safe food handling knowledge scores and mean scores by demographic variable.

TOTAL	←-----DEMOGRAPHIC VARIABLE----->						
	AGE		GENDER		RACE		EDUCATION
	20-44	45+	F	M	W	O	
							<BACH >BACH
KNOWLEDGE SCORE*	←----->						
				% (n)			
	6.1	6.6	5.5	6.9	3.3	5.8	11.1
	(8)	(5)	(3)	(7)	(1)	(7)	(1)
	22.7	28.9	14.5	25.7	13.3	20.7	55.6
	(30)	(22)	(8)	(26)	(4)	(25)	(5)
	25.8	21.1	32.7	24.8	30.0	27.3	---
	(34)	(16)	(18)	(25)	(9)	(33)	---
	31.8	27.6	36.4	28.7	40.0	32.2	22.2
	(42)	(21)	(20)	(29)	(12)	(39)	(2)
	13.6	15.8	10.9	13.9	13.3	14.0	11.1
	(18)	(12)	(6)	(14)	(4)	(17)	(1)
	---	---	---	---	---	---	---
TOTAL RESPONSES...	100	58	42	77	23	93	7
	(132)	(76)	(55)	(101)	(30)	(121)	(9)
MEAN SCORE.....	2.2	2.2	2.3	2.2	2.5	2.3	1.7
	2.1	2.3					

* = 1 point for each correct response/question

0 = no correct response

5 = all knowledge questions answered correctly

--- = score was not achieved

none on the 132 respondents answered all five knowledge questions correctly. Similar results were found by Chin (1992) where third-grade Michigan teachers had a mean knowledge score of 55.5% (n=8). In a study conducted by the USDA and FDA (1991) on food safety knowledge (n=2,797), 97% of respondents rated themselves as "average" or "above average" with respect to knowledge regarding food safety issues.

4.2.4 Statistical analysis of safe food handling knowledge

The second research objective was to determine if demographic characteristics of respondents were related to their safe food handling knowledge score. Mean safe food handling knowledge scores were cross-tabulated with three demographic variables; age, gender, and education (Table 5). Because the size of the respondent population was small, demographic variables (excluding gender) were collapsed from four to two categories each (Figure 2).

Demographic variables were not statistically related to mean knowledge score (Table 6). Respondents in the age group 44 and younger (n=76, 58%) had a mean food safety knowledge score of 2.2 and those 45 and older (n=55, 42%) had a mean score of 2.3. Those with a bachelors degree or less had a mean knowledge score of 2.1 (n=50, 38%), and those with at least a bachelors degree and above had a mean score of 2.3 (n=80, 62%).

Williamson et al. (1992) assessed food safety knowledge of consumers to determine if there was a difference in

<u>DEMOGRAPHIC VARIABLES</u>	<u>CATEGORIES</u>
Age.....	(1) 20-44 (2) 45+ (included those who were age 45 and older)
Gender.....	(1) F (female) (2) M (male)
Ethnicity.....	(1) W (white) (2) O (other, included those who were Black, Hispanic, Asian/Pacific Islander, American Indian/Alaskan Native and European)
Education.....	(1) <Bach (included those who had less than a bachelor degree) (2) >Bach (included those who had a bachelor degree, some graduate or professional school, or a graduate or professional school degree)

Figure 2. Collapsed demographic variables and categories for a study on safe food handling knowledge, practices, and opinions of consumers who received office-delivered food at lunchtime.

Table 6. Safe food handling mean knowledge scores by demographic variable of consumers who received office-delivered food at lunchtime (n=132).

DEMOGRAPHIC VARIABLE	NUMBER OF RESPONDENTS	MEAN (%)	S.D.
AGE (years)			
22-44.....	76	2.2 (43)	1.2
45+.....	55	2.3 (46)	1.0
GENDER			
Female.....	101	2.2 (44)	1.2
Male.....	30	2.5 (50)	1.0
RACE			
White.....	121	2.3 (46)	1.1
Other.....	9	1.7 (34)	1.3
EDUCATION			
<Bachelors degree.....	50	2.0 (40)	1.0
>Bachelors degree.....	80	2.3 (46)	1.2
TOTAL POPULATION.....	132	2.2 (44)	1.1

knowledge score between age groups and educational levels. Results indicated those 35 years of age and less had the lowest scores and those 36-65 years of age had an increase in knowledge score. Mean scores increased with educational level up to that of associate degree, but decreased for college graduates and those with advanced degrees. In the present study, differences in knowledge scores between educational levels and between age groups were not found.

4.3 Safe Food Handling Practices

The third research objective of this study was to determine if consumers followed recommended safe food handling practices when office-delivered food was received, stored and consumed. Respondents were asked to answer questions about their practices regarding personal hygiene (Appendix C, question 1), food storage at an office (Appendix C, questions 2 and 12), and food consumption and preparation practices (Appendix C, questions 4, 6, 7 and 11). Table 7 includes the frequency of responses and percentages for questions about safe food handling practice.

The practice question with the smallest number of desirable responses was "I wash my hands with warm soapy water and then rinse them before eating a delivered lunch at my work place" (Appendix C, question 1); only 9.1% of respondents indicated "always" (Table 7). Schafer et al. (1993) found that consumers with high readiness and health motivation but low self-efficacy might be unable or unwilling to act upon

Table 7. (p.1 of 4) Safe food handling practice questions: frequency and percent of responses.

QUESTION & RESPONSES	FREQUENCY (n)	PERCENT (%)
Q1-I wash my hands with warm soapy water and then rinse them before eating a delivered lunch at my work place.		
0 (never).....	7	5.3
1 (almost never).....	16	12.1
2 (seldom).....	12	9.1
3 (sometimes).....	33	25.0
4 (usually).....	28	21.2
5 (almost always).....	24	18.2
*6 (always).....	12	9.1
Missing cases.....	0	0
TOTAL VALID CASES.....	132	100.0
Q2-I let a lunch that has been delivered to my work place set out at room temperature for two hours or more.		
*0 (never).....	96	72.7
1 (almost never).....	27	20.5
2 (seldom).....	2	1.5
3 (sometimes).....	2	1.5
4 (usually).....	0	0
5 (almost always).....	2	1.5
6 (always).....	3	2.3
Missing cases.....	0	0
TOTAL VALID CASES.....	132	100.0

* = desirable response

Table 7. (cont'd-p.2 of 4)

QUESTION & RESPONSES	FREQUENCY (n)	PERCENT (%)
Q4-I eat delivered lunch items that are improperly packaged.		
*0 (never).....	1	9.1
1 (almost never).....	1	9.1
2 (seldom).....	3	27.3
3 (sometimes).....	1	9.1
4 (usually).....	1	9.1
5 (almost always).....	3	27.3
6 (always).....	1	9.1
Missing cases.....	121	91.7
TOTAL VALID CASES.....	11**	100.0***
Q6-When you have a lunch delivered to you at work, do you normally save part of it for consumption at a later date?		
A. Yes.....	19	14.5
B. No.....	112	85.5
Missing cases.....	1	.8
TOTAL VALID CASES.....	131	100.0

* = desirable response

** = only some respondents were directed to answer question number 4

*** = percent of those who responded (n=11)

Table 7. (cont'd-p.3 of 4)

QUESTION & RESPONSES	FREQUENCY (n)	PERCENT (%)
Q7-When you are ready to eat the leftovers from your delivered lunch, do you typically reheat them if they are intended to be consumed hot?		
A. Yes.....	11	64.7
B. No.....	6	35.3
Missing cases.....	115	87.1
TOTAL VALID CASES.....	17*	100.0**
Q11-After a lunch has been delivered to you at work, how long do you usually wait before you eat it?		
A. Less than one hour.....	129	98.5
B. Between one and two hours.....	2	1.5
C. More than two hours.....	0	0
Missing cases.....	1	.8
TOTAL VALID CASES.....	131	100.0

* = only some respondents were directed to answer question number 7

** = percent of those who responded (n=17)

Table 7. (cont'd-p.4 of 4)

QUESTION & RESPONSES	FREQUENCY (n)	PERCENT (%)
Q12-While you are waiting to eat your delivered lunch at work, where do you normally store it?		
A. In a desk.....	7	5.6
B. On a counter, table or desk top.....	61	48.8
C. In a refrigerator.....	56	44.8
D. Some other location....	1	.8
Missing cases.....	7	5.3
TOTAL VALID CASES.....	125	100.0

their concerns related to safe food handling. Furthermore, Woodburn and Van DeRiet (1985) found that 34% of consumers (n=100) did not wash their hands after handling raw chicken and before cutting vegetables for salads.

For the present study, the practice question with the largest number of desirable responses was "I let a lunch that has been delivered to my work place set out at room temperature for two hours or more before I eat it" (Appendix C, question 2); 72.7% "never" allowed office-delivered food to remain at room temperature for two hours or more before it was eaten (Table 7). However, some respondents "always" (2.3%) or "almost always" (1.5) let their office-delivered lunch set out at room temperature for two hours or more.

These results are not consistent with those of Woodburn and Van DeRiet (1985). Respondents in their study would let roast beef (24%) and chicken salad (13%) remain at room temperature for more than three hours. In addition, 50% of respondents in the Woodburn study would allow most foods to cool to room temperature before refrigerating.

When asked, "While you are waiting to eat your delivered lunch at work, where do you normally store it?" (Appendix C, question 12), respondents indicated they most often stored their office-delivered lunch on a counter, table, or desk top (48.8%), or they stored it in a refrigerator (44.8%) (Table 7). Results from other studies were not available on safe food handling practices of consumers who received office-delivered food.

4.4 Opinions on Safe Food Handling

The fourth research objective of this study was to assess consumer opinions related to safe food handling of office-delivered food. To determine opinions, respondents were asked to answer one question about each of the following topics; packaging (Appendix C, question 3), microbiological contamination of delivered foods (Appendix C, question 5), and food safety labeling. Table 8 includes the frequency and percent of responses for food safety opinion questions.

When asked "The delivered lunch items that I receive at work are improperly packaged" (Appendix C, question 3), the majority of respondents (91.5%) believed that their delivered lunch items were "never" (44.2%) or "almost never" (47.3%) improperly packaged (Table 8).

When asked "In my opinion, delivered lunch items that I receive at work are free from microbiological contamination" (Appendix C, question 5), the majority (71.4%) believed that their delivered lunch items were "always" (15.2%), "almost always" (44.8), or "usually" (11.4%) free from microbiological contamination at the time of delivery. According to a Food Marketing Institute study (1992), there was a lack of consumer confidence in overall food safety. Of the 1,000 consumers surveyed, 9% (up from 3% in 1991) were concerned about contamination from bacteria.

Lastly, 64.4% of respondents indicated that they were not willing to pay more for an office delivered lunch that

Table 8. (p.1 of 2) Safe food handling opinion questions: frequency and percent of responses.

QUESTION & RESPONSES	FREQUENCY (n)	PERCENT (%)
Q3-The delivered lunch items that I receive at work are improperly packaged.		
0 (never).....	57	44.2
1 (almost never).....	61	47.3
2 (seldom).....	6	4.7
3 (sometimes).....	2	1.6
4 (usually).....	1	.8
5 (almost always).....	1	.8
6 (always).....	1	.8
Missing cases.....	3	2.3
TOTAL VALID CASES.....	129	100.0
Q5-In my opinion, delivered lunch items that I receive at work are free from microbiological contamination.		
0 (never).....	6	5.7
1 (almost never).....	15	14.3
2 (seldom).....	2	1.9
3 (sometimes).....	7	6.7
4 (usually).....	12	11.4
5 (almost always).....	47	44.8
6 (always).....	16	15.2
Missing cases.....	27	20.5
TOTAL VALID CASES.....	105	100.0

Table 8. (cont'd-p.2 of 2)

QUESTION & RESPONSES	FREQUENCY (n)	PERCENT (%)
Q24-As a consumer, would you be willing to pay more for office delivered lunch items if there was a label added that had information on safe food handling, such as a consume by date or storage information?		
I would pay considerably more.....	3	2.3
I would pay slightly more..	30	22.7
I would not pay more.....	85	64.4
I have no opinion at this time.....	14	10.6
Missing cases.....	0	0
TOTAL VALID CASES.....	132	100.0

provided safe food handling information (Appendix C, question 24); only 2.3% would pay considerably more.

4.5 Implications

In this study, Green Gourmet customers at MSU were asked to complete a questionnaire which assessed safe food handling knowledge, practices, and opinions as they related to office-delivered food (Appendix C). Responses in all three areas were rated as poor by this researcher. Other researchers have indicated inadequate safe food handling knowledge and practices of respondents (Chin, 1992; Li, 1992; Williamson et al., 1992; Burch and Sawyer, 1991; Wyatt, 1979).

4.5.1 Safe food handling knowledge, practices, and opinions

Respondents in the present study had a mean safe food handling knowledge score of less than 50% on five questions. According to a consumer survey (n=1,000), consumers place the most faith in their own knowledge to ensure the safety of the foods they buy (40%), followed by government (21%), manufacturers (20%), and food stores (9%). However, results from the present study indicate that consumers answered less than 50% of the safe food handling questions correctly. In addition, the question on hand washing had the highest number of undesirable responses.

Results of this study indicated that consumers did not have a high enough safe food handling knowledge score or practice safe food handling procedures often enough to ensure the safe consumption of foods delivered to their offices at

lunchtime. In the opinion of this researcher, safe food handling information related to delivered food is needed.

Consumers in the present study received information on safe food handling from magazines (31.1%), family and friends (25%) and newspapers (24.2%) (Appendix C, question 23). Similar consumer sources of safe food handling information were mentioned by other researchers (Chin, 1992; Gravani et al., 1992). In the opinion of this researcher, the current sources of information that consumers use have not been effective in helping them to increase safe food handling knowledge and desirable practices with relation to delivered food. With the onset of new technology and emerging pathogenic bacteria that are resistant to cold temperatures, there is a need for specific safe food handling information on cold delivered food. To communicate safe food handling information related to cold delivered food to consumers, a label could be used. This label could be adhered to the package of delivered food.

In the opinion of this researcher, safe food handling information related to delivered food was not thought of as a high priority to those who responded to this survey (Appendix C). When asked "would you be willing to pay more for office-delivered food if there was a label added that had information on safe food handling, such as consume by date or storage information?", 64.4% (n=85) of respondents indicated that they would not pay more. In this study, reasons for not wanting safe food handling information were not determined. Reasons,

however, could have included: (1) current price of Green Gourmet food was the maximum customers would pay, (2) Green Gourmet customers did not believe that safe food handling information was important or necessary, or (3) Green Gourmet customers were unaware of their poor safe food handling knowledge and practices.

In addition to poor knowledge, only 9.1% (n=12) of respondents in the present study indicated they "always" wash their hands before consuming office-delivered food. In this study, reasons for not washing hands before consuming delivered food were not determined. Responses, however, could indicate that respondents do not know that hand washing can minimize the spread of harmful bacteria that could cause foodborne illness. Personal hygiene, such as hand washing, is a safe food handling practice that is necessary to help decrease the rate of foodborne illness in the United States (CDC, 1990; Bryan, 1988). Of the reported outbreaks of foodborne illness between 1973 and 1987 in which causal factors were reported, 59% were due to poor personal hygiene (Bean and Griffin, 1990).

Prompt refrigeration of food is a practice that is important to optimal safety of delivered food (IAMFES, 1991; Corlett, 1989; Lechowich, 1988). For the present study, 98.5% (n=129) of respondents indicated they wait less than one hour before they consume office-delivered food (Appendix C, question 11). Yet, only 44.8% (n=56) stored their food in a

refrigerator during the time period between receiving and consumption (Appendix C, question 12).

In relation to bacterial contamination, two hours or less is suggested for the amount of time that food can "safely" be held at room temperature. During this two hour period, quality could decrease and risks associated with delivered food might increase (Figure 1). Change in quality and risks could occur because food might have been mishandled by foodservice personnel before it was received by the consumer (Chin, 1992; Burch and Sawyer, 1991; Martin, 1991B; Wyatt, 1979).

4.5.2 Level of risk of delivered food prepared by a cook/chill system

Risk of foodborne illness might be higher for consumers who handle delivered food from a foodservice establishment using a cook/chill system as opposed to a "brown bag" meal or food from home (Farquhar and Symons, 1992; Bryan, 1990). A cook/chill system can be defined as a method where food is prepared and either preplated or put into bulk containers then rapidly chilled to 45°F or less and stored for at least two days until use.

Risk of foodborne illness increases with relation to delivered food because food must first be handled by foodservice personnel then distributed to consumers (Figure 1) (Burch and Sawyer, 1991; Wyatt, 1979). In the study conducted by Burch and Sawyer (1991), distribution of food was a major factor in growth of pathogenic bacteria in sandwiches. The

higher the risk of foodborne illness, the greater the need for consumer knowledge in safe food handling.

4.5.3 Labeling

One method to communicate risks and associated safe food handling practices related to office-delivered food is in the form of a label to consumers who receive delivered food (Figure 3). Risk Assessment and communication associated with food handling have recently been recognized as important tools for conveying information (Felix, 1992; Bryan, 1988). The critical control points that require greatest emphasis in the consumer communication process are storage and handling of food (IAMFES, 1991; CDC, 1990; Bryan, 1988).

4.5.3.1 Color-coding

To communicate risks of delivered food to consumers, a color-coded label system is recommended. Three different labels are proposed: (1) red = "high risk" food, (2) yellow = "moderate risk" food and (3) green = "low risk" food. These labels are based on three general categories which identify specific foods according to their level of risk (Farquhar and Symons, 1992). These researchers recommended that fresh meat, fresh poultry, ready-to-eat and open-pack cold meats and poultry, fresh and smoked fish and shellfish be stored between 30 and 34°F; milk, cream, yogurts, soft cheeses, coleslaw, prepared salads, mayonnaise, cut fresh fruit, sliced mushrooms, bakery goods, pizza and products prepared by a formal cook/chill catering system be stored between 32 and 38°F. Other foods such as chips, cookies, muffins and uncut

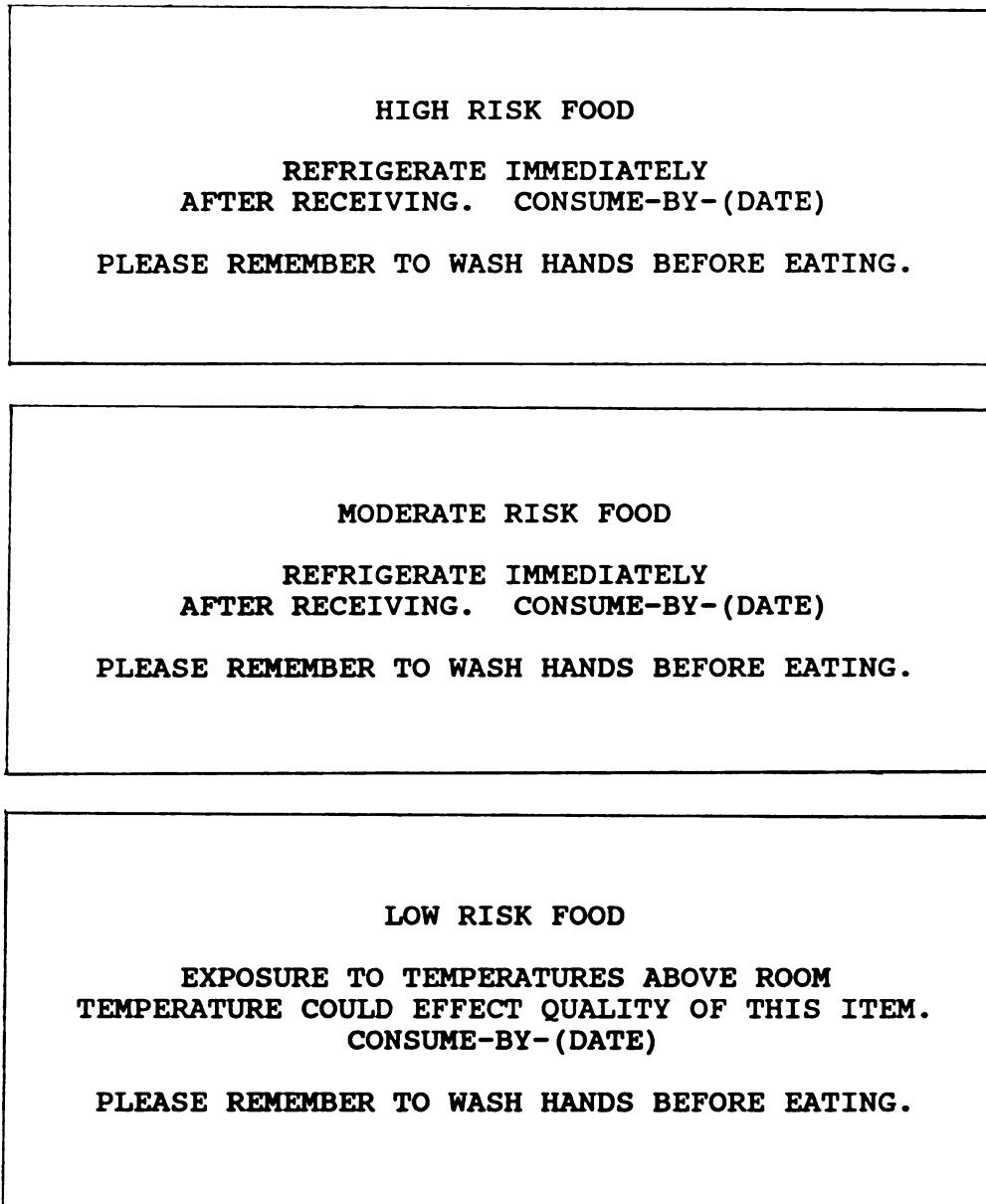


Figure 3. Examples of safe food handling labels for consumers of delivered food.

fruit require minimal temperature control for quality but not to the same degree as categories one and two above.

A color-coding system such as the one proposed by this researcher, would be relatively inexpensive, especially in comparison to costs associated with a foodborne illness outbreak (Todd, 1989). Cost of labels would be approximately \$.03/5,000, excluding labor and education costs. This color-coded label system could also be used with low literacy groups to indicate level of foodborne illness risk associated with delivered food.

4.5.3.2 Label text

To communicate desired safe food handling practices associated with delivered food, a label statement indicating storage information, consume-by-date and safe handling procedures could be included (Figure 3). At the 1992 Conference for Food Protection, label statements such as "Important-must be kept refrigerated" were highly recommended for ready-to-eat sandwiches (Felix, 1992). In the opinion of this researcher, label statements could be used with almost all types of delivered food, not just sandwiches.

In addition to a message which communicates the importance of refrigeration, this researcher also believes that the label should include consume-by-date information. Consume-by-date information would indicate to a consumer the last day the associated food would be considered microbiologically safe to consume. However, consume-by-date would only be effective if safe food handling practices were

followed by food handlers before consumers receive the associated food item.

Unfortunately, current Michigan regulations allow foodservice establishments to determine consume-by-dates of food items. In the opinion of this researcher, the lack of regulation regarding consume-by-date could be contributing to potential problems with pathogenic bacteria. For foodservice handlers to provide accurate safe food handling information on labels, therefore increasing the safety of foods before reaching the consumer, a safe food handling training program could be developed for foodservice personnel (Burch and Sawyer, 1991; Martin, 1991B; Wyatt, 1979). The training program could standardize consume-by-date information on delivered food labels and increase safe food handling knowledge and practices of foodservice personnel.

5.0 CONCLUSIONS

The results of this study have indicated the need for safe food handling information for consumers who receive office-delivered food at lunchtime. In the opinion of this researcher, a label which communicates risk of foodborne illness and associated safe food handling practices could be effective in educating consumers of delivered food. This label method could be implemented while only incurring minimal cost.

5.1 Recommendations for Future Research

For Green Gourmet customers, communication of foodborne illness risks and safe food handling practices related to office-delivered food would have been important in helping to educate consumers and decrease the risk of foodborne illness. However, communicating foodborne illness risks and safe food handling practices is even more important for food delivery services which cater to those who are at greater risk of foodborne illness such as the elderly and immunocompromised (Wolf, 1989). "Meals on Wheels" is an example of a home-delivery meal service primarily for the elderly. "Caring Cuisine" is an example of a meal service primarily for persons with AIDS (Reineke et al., 1993).

It is recommended that studies be conducted with delivery services such as "Meals on Wheels" and "Caring Cuisine" to determine effectiveness of labels that have safe food handling information related to delivered food. For elderly and low literacy populations, print size and reading level could also be evaluated. In addition, the use of symbols verses words on a label could also be evaluated for effectiveness.

5.2 Study Limitations

A possible limitation of this study was the small number of respondents (n=132). However, 100% of Green Gourmet customers were sent questionnaires. The small number of respondents may be attributed to the fact that Green Gourmet was a new service on campus at MSU.

The second possible limitation of this study was the education level of respondents. The majority (n=80; 62%) of respondents had at least a bachelors degree. One would assume the level of education would interfere with the results of the study, however, there was nearly equal mean knowledge scores between respondents who had less than a bachelors degree (2.1/5.0) and at least a bachelors degree (2.3/5.0). Furthermore, Williamson et al. (1992) found that the mean food safety knowledge score of consumers increased with education level up to associates degree, but decreased for college graduates and those with advanced degrees.

The third possible limitation of this study was the format of the questions in the questionnaire. Suggestions for

improvement include: (1) directing respondents to answer all questions, and (2) eliminating open-ended questions.

LIST OF REFERENCES

- Annual Restaurant Growth Index Industry Report, 25th year.
1992. Restaurant Business. September 1992. 74-88.
- Archer, D.L. and J.E. Kvenberg. 1985. Incidence and cost of foodborne diarrheal disease in the United States. J. Food Prot. 48:887.
- Auld, E. 1990. Risk communication and food safety. Dairy, Food and Environmental Sanitation. 10(6):352-355.
- Baker, D.A., C. Genigeorgis and G. Garcia. 1990. Prevalence of *Clostridium botulinum* in seafood and significance of multiple incubation temperatures for determination of its presence and type in fresh retail fish. J. Food Prot. 53(8):668-673.
- Barrett, B. 1992. Foodborne illness: Can it happen here? School Foodservice Journal. 63-64, 72.
- Bean, N.H. and P.M. Griffin. 1990. Foodborne disease outbreaks in the United States, 1973-1987: Pathogens, vehicles, and trends. J. Food Prot. 53(9):804-817.
- Bean, N.H., P.M. Griffin, J.S. Goulding and C.B. Ivey. 1990. Foodborne disease outbreaks, 5-year summary 1983-1987. J. Food Prot. 53(8):711-728.
- Brackett, R.E. 1992. Shelf stability of fresh produce as influenced by sanitation and disinfection. J. Food Prot. 55(10):808-814.
- Brackett, R.E. 1988. Presence and persistence of *L. monocytogenes* in food and water. Food Technol. 42(4):162.
- Bryan, F.L. 1980. Foodborne disease in the United States associated with meat and poultry. J. Food Prot. 43(2): 140-150.
- Bryan, F.L. 1988. Risks of practices, procedures and processes that lead to outbreaks of foodborne diseases. J. Food Prot. 51(8):663-673.

- Bryan, F.L., M. Harvey and M.C. Misup. 1981. Hazard analysis of party-pack foods prepared at a catering establishment. J. Food Prot. 44(2):118-123.
- Bryan, F.L. 1990. Hazard analysis critical control point (HACCP) systems for retail food and restaurant operations. J. Food Prot. 53(11):978-983.
- Bryan, F.L., P. Teufel, S. Riaz, S. Roohi, F. Qadar and Z.U.R. Malik. 1992. Hazards and critical control points of vending operations at a railway station and bus station in Pakistan. J. Food Prot. 55(7):534-541.
- Burch, N.L. and C.A. Sawyer. 1991. Food handling in convenience stores: The impact of personnel knowledge on facility sanitation. J. Env. Health. 54(3):23-27.
- Callister, S.M. and W.A. Agger. 1987. Enumeration and characterization of *Aeromonas hydrophilia* and *Aeromonas caviae* isolated from grocery store produce. Appl. Environ. Microbiol. 53:249-253.
- Carmines, E.G. and R.A. Zeller. 1985. Reliability and validity assessment. Sage Publications, Inc. Beverly Hills, CA.
- CDC (Centers for Disease Control). 1990. Foodborne disease outbreaks, 5-year summary, 1983-1987. In CDC surveillance summaries, March 1990. Morbid. Mortal. Weekly Rep. 39(SS-1):15-57.
- Chin, W.Y. 1992. Safe food handling: Knowledge of third-grade teachers and school foodservice personnel in Michigan schools. Michigan State University, Department of Food Science and Human Nutrition.
- Conroy, K. 1988. More lunch options for working consumers. Restaurants USA. Jan., 37-39.
- Corlett, D.A. 1989. Refrigerated foods and use of hazard analysis and critical control point principles. Food Technol. 2:91-94.
- Cox, L.J., T. Kleiss, J.L. Cordier, C. Cordellana, P. Konkel, C. Pedrazzini, R. Beumer and A. Siebenga. 1989. *Listeria* spp. in food processing, non-food and domestic environments. Food Microbiology. 6(1):49.
- Cox, L.J. 1989. A perspective on listeriosis. Food Technol. 12:52-58.

- Doyle, M.P. 1990. Foodborne Illness: Pathogenic *Escherichia coli*, *Yersinia enterocolitica*, and *Vibrio parahaemolyticus*. Lancet 336(8723):1111-1115.
- Eck, L.S. and H. Ponce. 1993. HACCP: A food safety model. School Foodservice Journal. February 1993. 50-52.
- Farquhar J. and H.W. Symons. 1992. Chilled food handling and merchandising: A code of recommended practices endorsed by many bodies. Dairy, Food and Environmental Sanitation. 12(4):210-213.
- Farrel, K. 1989. Take-out and drive thru. Restaurant Business. Sept. 1, pp.147-148, 150, 155-156.
- Felix, C.W. 1992. Food protection report. The monthly report of current developments in food protection. 8(5) May 1992. P.O. Box 1581 Leesburg, VA 22075.
- FMI (Food Marketing Institute). 1989. Institute of Food Technologists section operations manual: A program to ensure food safety in the supermarket. Scientific and Technology Services Department, Food Marketing Institute, 1750 K Street, NW, Washington, D.C. 20006.
- FMI (Food Marketing Institute). 1992. Trends: consumer attitudes and the supermarket. Washington, D.C., Food Marketing.
- Garg N., J.J. Churey and D.F. Splittstoesser. 1990. Effect of processing conditions on the microflora of fresh-cut vegetables. J. Food Prot. 53(8):701-703.
- Glass, K.A. and M.P. Doyle. 1991. Relationship between water activity of fresh pasta and toxin production by proteolytic *Clostridium botulinum*. J. Food Prot. 54(3):162-165.
- Gourama, H., W.Y.J. Tsai and L.B. Bullerman. 1991. Growth and production by *Staphylococcus aureus* in salad bar ingredients and clam chowder. J. Food Prot. 54(11):844-847.
- Gravani R., D. Williamson and D. Blumenthal. 1992. What do consumers know about food safety? FSIS Food Safety Review. 2:12-14.
- Hanna, M.O., J.C. Stewart, D.L. Zink, Z.L. Carpenter and C. Vanderzant. 1977. Development of *Yersinia enterocolitica* on raw and cooked beef and pork at different temperatures. J. Food Sci. 42:1180.

- Hurst, W.C. and G.A. Schuler. 1992. Fresh produce processing--an industry perspective. *J. Food Prot.* 55(10):824-827.
- IFT (Institute of Food Technologists') Expert Panel on Food Safety & Nutrition. 1988. Bacteria associated with foodborne diseases. Scientific Status Summary. *Food Technol.* 4:181-200.
- IAMFES (International Association of Milk, Food and Environmental Sanitarians). 1991. Procedures to implement the Hazard Analysis Critical Control Point system. 502 E. Lincoln Way, Ames, Iowa 50010-6666, USA.
- Irwin, K., J. Ballard, J. Grendon and J. Kobayashi. 1989. Results of routine restaurant inspections can predict outbreaks of foodborne illness: The Seattle-King county experience. *Amer. J. Public Health.* 79(5):586-590.
- Jones J.L. and Weimer J.P. 1977. Food safety: Homemakers' attitudes and practices. Report # 360. United States Department of Agriculture. Washington, D.C.
- Kerr, K.G., N.A. Rotowa, P.M. Hawkey and R.W. Lacey. 1990. Incidence of *Listeria* spp. in pre-cooked, chilled chicken products as determined by culture and enzyme-linked immunoassay (ELISA). *J. Food Prot.* 53(7):606-607.
- Kochak, J. 1988. Takeout. *Restaurant Business.* Nov. 20, pp. 151-166
- Labuza, T.P. 1989. Preventing chaos--Another challenge for IFTers. *Food Technol.* 6:8-9.
- Lechowich, R.V. 1988. Microbiological challenges of refrigerated foods. *Food Technol.* 12:84-86.
- Li, K.T. 1992. Michigan health information providers: Knowledge of safe food handling. Michigan State University, Department of Food Science and Human Nutrition.
- Liston, J. 1989. Current issues in food safety--especially seafoods. *J. Amer. Diet. Assoc.* 89(7):911-913.
- Lund, B.M. 1990. Foodborne illness: Foodborne disease due to *Bacillus* and *Clostridium* species. *Lancet.* 336(8721): 982-986.
- Madden, J.M. 1992. Microbial pathogens in fresh produce--the regulatory perspective. *J. Food Prot.* 55(10):821-823.
- Marth, E.H. 1988. Disease characteristics of *Listeria monocytogenes*. *Food Technol.* 42(4):165.

- Martin, P. 1991A. Hazard control: Potentially dangerous foods deserve closer attention in the way they are handled. *Restaurant Business*. May 1, 90(1):256.
- Martin, P. 1991B. Managerial challenges: Tomorrow's managers will need new skills to ensure a safe food supply. *Business Magazine*. May 20, 90(1):172.
- MEHA (Michigan Environmental Health Association). 1989. Michigan's Food Service Sanitation Regulations. Food storage p.17-19. Division of Environmental Health, Bureau of Environmental and Occupational Health. Michigan Department of Public Health. 3500 N. Logan, P.O. Box 3005, Lansing, MI.
- Michigan Beef Industry Commission. 1993. Report on *E. coli*. Michigan Beef Industry Commission, 2145 University Park Drive, Suite 300, Okemos, Michigan 48864.
- Moberg, L. 1989. Good manufacturing practices for refrigerated foods. *J. Food Prot.* 52(5):363-367.
- NRA (National Restaurant Association). 1987. Make a safe choice. Sanitary assessment of food environment. National Restaurant Association. Washington, D.C. 20001
- NRA (National Restaurant Association). 1990. 1989-1990 Foodservice industry pocket factbook. National Restaurant Association. Washington, D.C. 20036.
- NRA (National Restaurant Association). 1991. 1990-1991 Foodservice industry pocket factbook. National Restaurant Association. Washington, D.C. 20036.
- Palumbo S.A., F. Maxino, A.C. Williams, R.L. Buchanan and D.W. Thayer. 1985. Starch-ampicillin agar for the quantitative detection of *Aeromonas hydrophilia*. *Appl. Environ. Microbiol.* 50:1027-1030.
- Pratscher, M, T. Lydecker, J. Weinstein and L. Bertagnoli. 1987. How America loves to eat out. *Restaurants and Institutions*. 97:30-33, 40-41, 46.
- Reineke, G.L., D.A. Ford, M.M. Fairchild and J.J. Valeri. 1993. Caring Cuisine: An innovative home-delivered meal program for persons with AIDS. *Top. Clin. Nutr.* 8(3)80-88.
- Rhodes, M.E. 1991. Educating professionals and consumers about extended-shelf-life refrigerated foods. *Food Technol.* 4:162-164.

- Riley, L.W., R.S. Remis, S.D. Helgerson, H.B. McGee, J.G. Wells, B.R. Davis, R.J. Herbert, E.S. Olcott, L.M. Johnson, N.T. Hargrett, P.A. Blake and M.L. Cohen. 1983. Hemorrhagic colitis associated with a rare *Escherichia coli* serotype. N. Engl. J. Med. 308:681.
- Roberts, T. 1989. Human illness costs of foodborne bacteria. Amer. J. Agr. Econ. 71(7):468-474
- Rush, R. and J. Kochak. 1990. 23rd annual restaurant growth index. Restaurant Business. 89:84, 86, 88, 92-94.
- Ryser, E.T. and E.H. Marth. 1989. "New" food-borne pathogens of public health significance. J. Amer. Diet. Assoc. 89(7):948-954.
- Sawyer, C.A. 1990. Safety issues related to use of take-out food. J. Foodservice Systems. 6:41-59.
- Schafer R.B., E. Schafer, G.L. Bultena and E.O. Hoiberg. 1993. Food safety: an application of the health and belief model. J. Nut. Ed. 25(1):17-24.
- Schlech W.F., P.M. Lavigne, R.A. Bortolussi, A.C. Allen, E.V. Haldane, A.W. Hightower, S.E. Johnson, S.H. King, E.S. Nicholls and C.V. Broome. 1983. Epidemic listeriosis: Evidence for transmission by food. New Eng. J. Med. 308:203.
- Snyder, O.P. and D.M. Poland. 1991. America's "safe" food, Part 2. Dairy, Food and Environmental Sanitation. 11(1):14-20.
- Speer, S.C. and B.E. Kane. 1990. Certification for food service managers: A survey of current opinion. J. Food Prot. 53(3):269-274.
- Swintek, R.J. 1991. New products are king. Food Proc. 52(8): 38-40.
- Snyder, O.P. 1986. Applying the Hazard Analysis Critical Control Points system in food safety and foodborne illness prevention. J. Foodservice Systems. 4(1986) 125-131.
- Todd, E.C.D. 1989. Preliminary estimates of costs of foodborne disease in the United States. J. Food Prot. 52(8):595-601.
- Toma, S. and U.R. Diedrick. 1975. Isolation of *Yersinia enterocolitica* from swine. J. Clin. Microbiol. 2:478.

- Unkelsbay, N.F., R.B. Maxcy, M.E. Knickrehm, K.E. Stevenson, M.L. Cremer and M.E. Matthews. 1977. Foodservice systems: Product flow and microbial quality and safety of foods. University of Missouri-Columbia College of Agriculture. Agriculture Experiment Station. Research Bulletin 1018.
- USDA and FDA. 1991. Results from the Food and Drug Administrations 1988 health and diet survey. Food handling practices and food safety knowledge for consumers. U. S. Department of Agriculture and Food and Drug Administration. Washington, D.C.
- USDA and FSIS. 1989. A margin of safety: The HACCP approach to food safety education. USDA, Washington, D.C.
- Wells, J.G., B.R. Davis, I.K. Wachsmuth, L.W. Riley, R.S. Remis, R. Sokolow and G.K. 1983. Laboratory investigation of hemorrhagic outbreaks associated with a rare *Escherichia coli* sertotype. J. Clin. Microbiol. 18:512.
- Williamson, D.M., R.B. Gravani and H.T. Lawless. 1992. Correlating food safety knowledge with home food-preparation practices. Food Technol. 46(5): 94-100.
- Wolf, I.D. 1992. Critical issues in food safety: 1991-2000. Food Tech. 46(1):64-70.
- Woodburn, M and S. Van DeRiet. 1985. Safe food: Care labeling for perishable foods. Home Ec. Res. Journal. 14(1):3-10.
- Wyatt, C.J. 1979. Concerns, experiences, attitudes and practices of food market managers regarding sanitation and safe food handling procedures. J. Food Prot. 42(7):555-560.

APPENDICES

APPENDIX A.

GREEN GOURMET OPERATIONS MANUAL

GREEN GOURMET OPERATIONS MANUAL

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**Submitted to:
Department of Food Science and Human Nutrition
and
Department of Housing and Food Service**

**Michigan State University
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INTRODUCTION

This introduction includes three main sections: the objectives of Green Gourmet, the purposes of this manual, and the organization of this manual.

The section entitled "Objectives of Green Gourmet" includes a description and historical background of Green Gourmet and the objectives of Green Gourmet. The section entitled "Purposes of This Manual" includes a description of the Green Gourmet Operations Manual and the purposes of the manual. Lastly, the section entitled "Organization of This Manual" includes an example of the standard format for Green Gourmet policies and definitions of policy sections.

OBJECTIVES OF GREEN GOURMET

Green Gourmet is a lunch delivery/take-out service intended to provide a healthful lunch alternative to vending machine food and fast food. The lunch service was designed for use by employees at Michigan State University (M.S.U.) and operates out of the M.S.U. Union Building.

Green Gourmet was initially test marketed in the spring of 1989 to M.S.U. employees who worked in either the Food Science Building or Agricultural Hall. During the summer of 1989 the lunch delivery/take-out service was extended to all M.S.U. employees.

The four main objectives of the Green Gourmet lunch service are:

1. To provide a lunch service that is convenient for M.S.U. employees.
2. To provide a healthful lunch alternative to foods purchased from vending machines and fast food establishments.
3. To provide a nutritional analysis of menu items offered which, in turn, will enable M.S.U. employees to make informed decisions about healthful food choices.
4. To provide a gourmet environment in the office or meeting room which includes an appealing food presentation and personal service.

PURPOSES OF THIS MANUAL

To help standardize operational methods for Green Gourmet, the Green Gourmet Operations Manual was developed. This manual was written primarily for use by the foodservice managers, supervisors and staff associated with the operational details of Green Gourmet. However, foodservice operations, especially those at educational institutions, may also find this manual beneficial for the development of a lunch delivery/take-out service similar to that of Green Gourmet.

The Green Gourmet Operations Manual, therefore, serves several purposes:

1. Allows for the efficient organization of written policies and procedures in one document.
2. Serves as a guide for new foodservice managers, as well as a training manual for new employees.
3. Provides pertinent information that can be used by other foodservice establishments for the development of a similar lunch delivery/take-out service.

ORGANIZATION OF THIS MANUAL

The Green Gourmet Operations Manual contains policies and procedures arranged in seven sections. Each section contains policies that follow a standard format. Please see Figure 1 for an example of the format.

To enhance operational effectiveness, a copy of the Green Gourmet Operations Manual should be kept in the offices of the foodservice manager and foodservice supervisor, as well as in the production area. As new policies and procedures are developed, they should be dated and filed in the manual; old policies should be replaced if necessary. Employees associated with Green Gourmet should be notified as soon as possible of any changes made in the Operations Manual. If properly used, this manual has the potential to be an excellent means of communication among management, employees, customers and operations.

SUMMARY OF INTRODUCTION

Green Gourmet, a campus-wide lunch delivery/take-out service, was developed to provide a convenient lunch service, to provide a nutritional lunch alternative to vending machine food and fast food, to allow employees to make informed decisions about healthful food choices and to provide a gourmet environment. This manual has several purposes. The purposes include the organization of written policies and procedures in one document, a guide for new foodservice managers, as well as a training manual for new

FIGURE 1. Standard format and definitions of policy and procedure sections of the Green Gourmet Operations Manual.

POLICY NAME: (1)	FILE CODE: (2)
PURPOSE: (3)	
RESPONSIBILITY: (4)	

PROCEDURE: (5)

ADDITIONAL COMMENTS: (6)

DATE ADOPTED: _____ DATE REVISED: _____ (7)

DEFINITIONS OF POLICY AND PROCEDURE SECTIONS:

1. **POLICY NAME:**
A concise descriptive title by which the policy is known.
2. **FILE CODE:**
An alphanumerical system used to identify and organize policy categories. The letter identifies the policy section and the number identifies the policy within the section.
3. **PURPOSE:**
A description of the intention of the policy.
4. **RESPONSIBILITY:**
The person(s) responsible for the enforcement of the policy.
5. **PROCEDURE:**
Recommended steps needed to carry out the purpose of the policy.
6. **ADDITIONAL COMMENTS:**
Information that is of special interest regarding the policy.
7. **DATE ADOPTED AND DATE REVISED:**
Dates used to inform the reader when the policy was adopted and/or revised.

employees, and pertinent information which can be used by other foodservice operations for the development of a lunch delivery/take-out service. Additionally, the manual contains policies and procedures arranged by sections. Each section contains policies which follow a standard format (Please see Figure 1).

ACKNOWLEDGEMENTS

I would like to thank the following people for taking the time to edit the original Green Gourmet Operations Manual:

Jim Sheppard, M.S.U. Union Manager, M.S.U.
Bill Burke, M.S.U. Union Foodservice Manager, M.S.U.
Dr. Carol Sawyer, Associate Professor, M.S.U.
Dr. Margaret Holmes-Rovner, Associate Professor, M.S.U.
Betty Wernette, M.S.U. Sanitarian, M.S.U.
Lois Furry, Healthy U Marketing and Network Coordinator, M.S.U.

I would like to thank the following people for making my experiences with Green Gourmet possible:

Robert Underwood, who made educational funding possible through the Department of Housing and Food Service.
Jim Sheppard, who provided a location for Green Gourmet operations.
Bill Burke, who managed Green Gourmet and provided helpful guidance.
Dr. Carol Sawyer, who developed original idea for a campus lunch delivery service.

I would also like to thank my husband, Todd Grischke, for his patience and understanding throughout the development and implementation of Green Gourmet and the writing of this manual.

ABOUT THE AUTHOR

At the time this manual was completed, Deborah Grischke was a graduate student in the Department of Food Science and Human Nutrition at Michigan State University. She was seeking a degree in Institution Administration and previously obtained a Bachelor of Science degree in Dietetics from Michigan State University in 1988.

As part of her graduate program, Deborah developed and implemented the Green Gourmet lunch delivery/take-out service for Michigan State University and supervised operations through December of 1990.

While working as a graduate student, Deborah was a graduate representative (Human Nutrition) for the Graduate Affairs Committee in the Department of Food Science and Human Nutrition. She also was a member of and recording secretary for the Green Gourmet Advisory Committee. Deborah was expected to complete her master's degree in the fall of 1991.

The two years of experience with Green Gourmet operations allowed her to write this manual from the perspective of someone who actually carried out the tasks.

SECTION 1.

MENU PLANNING

POLICY NAME**FILE CODE**

Menu Description.....	MP-01
Green Gourmet Menu Revisions.....	MP-02
Green Gourmet Logo Design.....	MP-03
Menu Pricing.....	MP-04
Nutritional Analysis.....	MP-05
Menu Distribution.....	MP-06
Food Frequencies.....	MP-07

POLICY NAME:
Menu description.

FILE CODE: MP-01
(Page 1 of 3)

PURPOSE:
To develop familiarity with the Green Gourmet menu..

RESPONSIBILITY:
All Green Gourmet personnel.

PROCEDURES:

1. **MENU OBJECTIVE:** The objective of the Green Gourmet menu is to be unique and offer high quality, healthful entrees which are not currently available elsewhere on the M.S.U. campus. This uniqueness has created an image of excellence compared to typical university foodservice operations, and has aided in the growth of Green Gourmet across the M.S.U. campus.
2. **MENU SELECTIONS:** The menu is fixed (same menu items each day) and consists of four major sections; salads, sandwiches, ala carte items and beverages.

Section 1: Salads

- * Louis Seafood Salad
- * Greek Salad
- * Marinated Chicken Salad
- * Vegetable Medley Salad
- * Pesto Salad
- * Fruit Salad

Section 2: Sandwiches

- * Gourmet Deli Sandwich
- * Vegetarian Sandwich
- * Combination Plate
- * Chicken Salad Croissant
- * Tuna Salad Croissant

Section 3: Ala Carte Items

- * Soup De Jour
- * Fresh Fruit (orange or apple)
- * Dinner Roll w/Promise Margarine
- * Oat Bran Muffin w/Promise Margarine
- * Jumbo Cookie (chocolate chip, peanut butter, oatmeal raisin or chocolate oatmeal)

Section 4: Beverages

- * 100% Juice (orange, grapefruit, apple or grape)
- * Milk (skim, 2% or whole)
- * Pop (Coke, Diet Coke, Sprite, Diet Sprite)

MENU DESCRIPTION
(Page 2 of 3)

3. **PRICE RANGE:** The menu is designed to have a selling range of \$ 5.00 - \$ 7.00 for a complete lunch combination including an entree, beverage and dessert (Please see policy MP-04 for more details on menu pricing).
4. **DEFINITION OF HEALTHFUL GREEN GOURMET ENTREES:** Green Gourmet defines healthful as total calories less than or equal to 375 kilocalories and less than or equal to 30% of kilocalories coming from fat. At least 50% of the entrees on the Green Gourmet menu must meet the criteria for healthful.
5. **GREEN GOURMET MENU LOGOS:** The Green Gourmet menu includes three logos:
 - A. Green Gourmet logo
 - B. Healthy U logo
 - C. M.S.U. Union Building logo

GREEN GOURMET LOGO: This is an example of the Green Gourmet logo (Please see policy MP-03 for additional information on the Green Gourmet logo).



This logo is used on the Green Gourmet menu to:

- A. Identify Green Gourmet as a healthful lunch service.
- B. Represent the concept of delivery/take-out.
- C. Represent M.S.U. pride and spirit.

HEALTHY U LOGO: Healthy U is M.S.U.'s health promotion program. This is an example of the Healthy U logo:



MENU DESCRIPTION
(Page 3 of 3)

This logo is used on the Green Gourmet menu to:

- A. Identify Green Gourmet menu items that are healthful (as defined in procedure number 4 above).
- B. Identify Green Gourmet as a sub-project of Healthy U.
- C. Promote M.S.U. employees to make informed decisions about healthful food choices.

M.S.U. UNION BUILDING LOGO: This is an example of the M.S.U. Union Building logo:



This logo is included on the Green Gourmet menu to identify the M.S.U. Union Building as the production site and operational base for Green Gourmet.

6. **NUTRITIONAL ANALYSIS:** A nutritional analysis is included on the back side of the menu. For each menu item, the nutritional analysis includes total kilocalories, protein, fat and carbohydrates (Please see policy MP-05 for additional information on the Green Gourmet nutritional analysis).

ADDITIONAL COMMENTS:

1. Please see Appendix A for a sample Green Gourmet menu (1990 version).

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Green Gourmet menu revisions.

FILE CODE: MP-02
(Page 1 of 2)

PURPOSE:

To maintain a menu with items which reflect current trends in the foodservice industry.

RESPONSIBILITY:

Foodservice manager and Green Gourmet Advisory Committee members.

PROCEDURES:

1. **SOURCES FOR IDEAS:** There are a variety of sources which can be used to obtain ideas for new menu selections. The list below includes some of those sources:
 - * M.S.U. Main Library (ie. special cookbook collection on ground floor)
 - * Cookbooks
 - * Trade journals (ie. Food Management, Gourmet, Nation's Restaurant News, Nutrition Action, Restaurants & Institutions, Restaurant Business, Restaurant Hospitality)
 - * Professional journals (ie. Journal of the American Dietetic Association)
 - * Magazines (ie. Bon Appetite)
 - * University faculty and staff in foodservice related areas
 - * Green Gourmet Advisory Committee members
 - * Green Gourmet employees
 - * Green Gourmet customers
 - * Chefs and cooks in the M.S.U. Department of Housing and Food Service.
2. **GREEN GOURMET SURVEYS:** Surveys can also be used to obtain information for revising the Green Gourmet menu. Several surveys have been completed in the past to gather information in a variety of different areas such as menu item preferences and service evaluations.
3. **STUDENT PARTICIPATION:** M.S.U. students enrolled in Human Nutrition and Foods (HNF) 440 or HNF 441 have the opportunity to participate in special projects. In the past, these projects have included the development and implementation of surveys for Green Gourmet. The surveys are a valuable tool for gathering information for menu revisions, as well as a valuable learning experience for the students involved in the project. When this approach is desired to gather information, the Instructor(s) of HNF 440 & 441 can be contacted (1991 Instructor, Dr. Carol Sawyer, 353-9663). Please see Appendix B for a sample survey.

GREEN GOURMET MENU REVISIONS
(Page 2 of 2)

4. **FOOD FREQUENCIES:** Green Gourmet food frequency results are used to update the Green Gourmet menu (Please see policy MP-07 for more details on Green Gourmet food frequencies). The results identify which menu items are ordered most and least frequently. The results are primarily used to determine if a particular item should be deleted from the menu. Menu item deletions are determined by the foodservice manager and Green Gourmet Advisory Committee members.
5. **GREEN GOURMET STAFF RESPONSIBILITIES:** The foodservice manager and the Green Gourmet Advisory Committee members are primarily responsible for content revisions. The content revisions for the Green Gourmet menu include menu selections, selection descriptions and prices, nutritional analysis and any additional written information. Once the content revisions are complete, they are sent to the M.S.U. Union Advertising Department (see below).
6. **M.S.U. UNION ADVERTISING STAFF RESPONSIBILITIES:** The M.S.U. Union Advertising staff is responsible for incorporating menu revisions into the existing Green Gourmet menu. The advertising staff can also develop a new menu design to include the menu revisions. If a new menu design is developed, approval is needed from the foodservice manager. A draft of the new menu, including revisions, is sent to the foodservice manager for final approval. Upon approval, the new menu is sent to the M.S.U. Department of Housing and Food Service for printing.
7. **YEARLY REVISIONS:** The Green Gourmet menu is analyzed for revision once each year. Revisions are done in the summer of the current year. This will allow time for the new menu to be printed and ready for distribution the following fall semester (marks the beginning of a school year for M.S.U.). If additional menu items are added or old ones revised, they need to include a nutritional analysis (Please see policy MP-05 for nutritional analysis information).

DATE ADOPTED: _____ DATE REVISED: _____

POLICY NAME:
Green Gourmet logo design.

FILE CODE: MP-03

PURPOSE:
To develop familiarity with the Green Gourmet logo.

RESPONSIBILITIES:
Foodservice manager and M.S.U. Union Advertising staff.

PROCEDURES:

1. **GREEN GOURMET LOGO OBJECTIVES:** The objectives of the Green Gourmet logo are:
 - A. To identify Green Gourmet as a healthful lunch service.
 - B. To identify Green Gourmet as a lunch delivery/take-out service.
 - C. To represent M.S.U. pride and spirit.
2. **GREEN GOURMET LOGO LOCATION:** The Green Gourmet logo should be used at least once on each side of the Green Gourmet menu. The exact location of the logo, on each side, may vary with menu design (An example of the Green Gourmet logo can be seen in policy MP-01).
3. **USE OF GREEN GOURMET LOGO:** In addition to the menu, the Green Gourmet logo is used on any printed material related to Green Gourmet. Included would be fliers, coupons and informational materials. These materials are developed by the foodservice manager and sent to the M.S.U. Union Advertising Department to be type set. Depending on the quantity needed, printing is done in the catering copy room or through the M.S.U. Department of Housing and Food Service.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Menu pricing.

FILE CODE: MP-04
(Page 1 of 2)

PURPOSE:

To provide a standard pricing structure for the Green Gourmet menu.

RESPONSIBILITY:

Foodservice manager and foodservice supervisor.

PROCEDURES:

1. **PRICE RANGE:** Green Gourmet menu items are priced to be acceptable to management and Green Gourmet customers. The 1990-1991 price range for Green Gourmet entrees is \$ 3.25 - \$ 4.50. Aside from entree selections, menu items in the beverage and ala carte sections are priced between \$ 0.50 and \$ 1.25. The price of menu items can be changed during a menu revision (Please see policy MP-02 for additional information on menu revisions).
2. **FOOD COST PERCENTAGE AND SELLING PRICE:** Green Gourmet menu selections should be priced to reflect a food cost of 40% or less. The food cost percentage is a number which covers the cost of food and non-food items used for the production and distribution of Green Gourmet menu items. When using a 40% food cost, the selling price factor becomes 2.5 (100% divided by 40%). When new selections are added to the Green Gourmet menu or the food cost of an ingredient changes, a selling price must be calculated using the selling price factor of 2.5. The following is an example of how to calculate selling price:

$$2.5 \text{ (factor)} \times 1.40 \text{ (food cost of Pesto Salad)} = \$ 3.50$$

Therefore, \$ 3.50 would be the selling price of the Pesto Salad.
3. **PACKAGING COSTS:** Included in the cost of packaging is Green Gourmet place mats, napkins, plasticware, wet-naps, styrofoam containers and lids, and souffle cups and lids. For each entree, the cost of packaging is included as an ingredient cost when determining food cost.

MENU PRICING
(Page 2 of 2)

4. **GREEN GOURMET PROFITS:** Green Gourmet menu selections are priced to make a profit. Profits will be used to improve Green Gourmet operations. Improvements might include purchasing a new delivery vehicle, using higher quality food ingredients, or purchasing packaging materials which are environmentally safe.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Nutritional analysis.

FILE CODE: MP-05
(Page 1 of 2)

PURPOSE:
To develop familiarity with the Green Gourmet nutritional analysis.

RESPONSIBILITY:
Foodservice supervisor with approval by a Registered Dietitian.

PROCEDURES:

1. **PURPOSE OF NUTRITIONAL ANALYSIS:** The purpose of the Green Gourmet nutritional analysis is to enable M.S.U. employees to make informed decisions about healthful food choices. This is accomplished by providing nutritional information on the back side of the Green Gourmet menu.
2. **NUTRITIONAL ANALYSIS:** Included in the nutritional analysis is the total number of kilocalories, protein, fat and carbohydrates for each menu selection. Additionally, menu selections which have 375 kilocalories or less and 30% or less of total kilocalories coming from fat are identified by a Healthy U logo (one exception is the Fruit Platter with 395 kilocalories and 6.83% of total kilocalories coming from fat). Please see policy MP-01 for more information on the Healthy U logo. A Green Gourmet phone number is included on the menu for customers who have questions or comments related to the Green Gourmet nutritional analysis. Questions are directed to the foodservice supervisor.
3. **SOURCE FOR NUTRITIONAL INFORMATION:** The source for the 1990 nutritional analysis revisions was Bowes and Church's Food Values of Portions Commonly Used, revised by Jean A.T. Pennington Ph.D, R.D., Harper & Row Publishers Inc., 1989. The source for future nutrition information will be the nutrition accounting program within Menu Management (CBORD Incorporated, version 3.1.1R, Ithaca, New York). The nutrition information is to be obtained by an M.S.U. dietetics student under the direction of a Registered Dietitian who is also an M.S.U. faculty member. The foodservice supervisor is responsible for contacting a dietetics student and Registered Dietitian to update nutrition information.
4. **LABELS FOR NUTRITIONAL INFORMATION:** There is a typed master copy of nutritional information for each menu item. The master copies are stored in the foodservice supervisor's office (located in the M.S.U. Union Cafe kitchen). The master copies are used to print stickers which include the

NUTRITIONAL ANALYSIS
(Page 2 of 2)

name of the menu item and a nutritional analysis of the menu item (as described in procedure number two above). Blank sheets of stickers can be found in the Catering Office (located on the second floor of the M.S.U. Union Building). When an order is placed, a printed sticker is adhered to the exterior packaging of the corresponding menu item. Stickers can be printed ahead of time and stored in the Green Gourmet recipe notebook (Please see policy FP-03 for more information on the Green Gourmet recipe notebook).

ADDITIONAL COMMENTS:

1. Please see Appendix C for a sample of the Green Gourmet nutritional analysis.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Menu distribution.

FILE CODE: MP-06

PURPOSE:

To develop a standard method for distributing the Green Gourmet menu.

RESPONSIBILITY:

Foodservice manager and foodservice supervisor.

PROCEDURES:

1. **CAMPUS DISTRIBUTION:** Green Gourmet menus are distributed once per year to M.S.U. employees. Menus are distributed during registration week each fall semester, via campus mail. The foodservice manager is responsible for obtaining a complete updated list of M.S.U. employees and their campus address (obtained through the M.S.U. Administration Building at no charge). The list of names and addresses will be in sticker form and ready to adhere to Green Gourmet menus. The Green Gourmet menus are folded into thirds and sealed shut with an address label.
2. **OTHER METHODS OF MENU DISTRIBUTION:** The Green Gourmet menu is distributed in a variety of other ways. Included in the distribution methods is the posting of Green Gourmet menus on bulletin boards in each building on campus, campus publications such as the M.S.U. News Bulletin, Healthy U newsletters, and the State News student newspaper, and the periodic distribution of menus with each Green Gourmet order that is delivered or picked up. Additionally, Green Gourmet menus are always available in the Catering Office for M.S.U. employees and students, and the general public.
3. **DISTRIBUTION EXPENSES:** Any expenses incurred for Green Gourmet menu distribution are reported to the foodservice supervisor and, in turn, recorded in an expense book for M.S.U. Union Catering. These expenses are calculated into a yearly budget report by the foodservice manager, and deducted from M.S.U. Union Catering income.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Food frequencies.

FILE CODE: MP-07

PURPOSE:

To describe the method used to determine popularity of Green Gourmet entrees.

RESPONSIBILITY:

Catering receptionist, foodservice manager, and Green Gourmet Advisory Committee members.

PROCEDURES:

1. **ENTREE PREFERENCES AS DETERMINED BY FOOD FREQUENCIES:** Daily Green Gourmet delivery/take-out orders are used to determine the frequency of Green Gourmet entree purchases. A food frequency is done for one week (Monday through Friday) once per month. During that time, each entree ordered is recorded on the food frequency chart by the catering receptionist. A tally of entree purchases is completed at the end of the week. Please see Appendix D for a sample food frequency chart.
2. **FOOD FREQUENCY NOTEBOOK:** Food frequencies results are kept in a notebook titled "Green Gourmet Food Frequencies". The notebook is stored in the Catering Office.
3. **USE OF FOOD FREQUENCY RESULTS:** Food frequency results are primarily used to determine if a menu item should be deleted from the next menu draft. Deletions occur when the food frequency results show that a particular menu item is not frequently sold. Deletions are determined and approved by the foodservice manager and Green Gourmet Advisory Committee members. In addition, food frequency results suggest which entrees are most popular. These results are used to determine which entrees will be produced for sale in the Green Gourmet section in the M.S.U. Union Station Cafe (Please see policy DT-01 for more information on the Green Gourmet cafe line).

DATE ADOPTED: _____ **DATE REVISED:** _____

SECTION 2.**DELIVERY AND TAKE-OUT
PROCEDURES****POLICY NAME****FILE CODE**

Operational Modes of the Green Gourmet Lunch Service..	DT-01
Phone Ordering.....	DT-02
Green Gourmet Bank.....	DT-03
Interdepartmental Transfer (IDT).....	DT-04
Coordination of Deliveries.....	DT-05
Delivery Preparation.....	DT-06
Transportation for Deliveries.....	DT-07
Delivery Sites.....	DT-08
Take-Out/Pick-Up Purchases.....	DT-09
Cafe Purchases.....	DT-10

POLICY NAME:

Operational modes of the Green Gourmet
lunch service.

FILE CODE: DT-01

PURPOSE:

To describe each facet of the Green Gourmet lunch
service.

RESPONSIBILITY:

All Green Gourmet personnel.

PROCEDURES:

1. **DELIVERY:** Green Gourmet entrees and menu items are prepared and delivered to M.S.U. employees. The items that are available for delivery are listed on the Green Gourmet menu (Please see Appendix A for a sample Green Gourmet menu). Orders are delivered between 11:00 am and 1:00 pm Monday through Friday, excluding holidays observed by M.S.U..
2. **TAKE-OUT:** Green Gourmet entrees and menu items are prepared and available for pick-up by M.S.U. employees. The items that are available for pick-up are listed on the Green Gourmet menu (Please see Appendix A for a sample Green Gourmet menu). Orders may be picked up in the catering kitchen between 11:00 am and 1:00 pm Monday through Friday, excluding holidays observed by M.S.U..
3. **CAFE LINE:** As part of the take-out facet, Green Gourmet entrees are prepared for sale in the M.S.U. Union Station Cafe. The entrees can be taken out of the cafe or eaten in the cafe dining room. Green Gourmet entrees are one of many selections offered by the Union Station Cafe. They are displayed in the Green Gourmet section on the west side of the cafe. Entree prices are the same as those listed on the Green Gourmet menu (Please see Appendix A for a sample Green Gourmet menu). The Union Station Cafe operates during the M.S.U. school year (end of September through the beginning of June). The cafe provides food to M.S.U. faculty, staff, administrators, students and the general public Monday through Friday from 11:00 am to 1:30 pm, excluding holidays observed by M.S.U..

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Phone ordering.

FILE CODE: DT-02
(Page 1 of 2)

PURPOSE:
To describe the procedures for taking Green Gourmet orders.

RESPONSIBILITY:
Catering receptionist.

PROCEDURES:

1. **PHONE LINE:** The phone line to place and receive Green Gourmet orders is 355-6653. The phones are located in the Catering Office and are available from 8:00 am - 5:00 pm Monday through Friday to place an order.
2. **RECEIVING A GREEN GOURMET ORDER:** An order form was developed specifically for Green Gourmet (Please see Appendix E for a sample order form). The order form allows an individual or group to place an order. When an order is being placed for an individual, their name is recorded at the top of the order form. However, if a group of two or more people are placing an order, the names of the individuals who will be eating the lunch items appear at the bottom of the order form. The catering receptionist is responsible for recording the following information:
 - * Customer name(s)
 - * Phone number of individual placing the order
 - * Room/building to deliver to
 - * Delivery time and date
 - * Their initials
 - * Date and time order was taken
 - * Specified menu selections and quantity
 - * Extended prices, delivery charge (\$ 0.75 for 1990-91 school year), sub-total, tax, and total
3. **INTERDEPARTMENTAL TRANSFER (IDT) ORDERING:** Green Gourmet orders can be charged to a M.S.U. account using an IDT. IDT's are used to charge items and services related to M.S.U. business such as a meeting. IDT's can be used for both delivery and take-out orders. When placing an IDT order, the only additional information that a customer needs to provide is the M.S.U. account number to which the order is to be charged, the department to be charged, the number of people who will be eating lunch at the meeting, and the purpose of the meeting. In addition to the order form, an IDT form must be completed and attached to the order form copy which is sent to the production area. Please see policy DT-04 for additional information on IDT's.

PHONE ORDERING
(Page 2 of 2)

4. **TAKE-OUT ORDERS:** A Green Gourmet customer can pick up their order in the catering kitchen if they do not want it delivered. If a customer is going to pick up an order, the order form is completed in the same manner as for a delivery except the term "P.U.C.K." (stands for pick-up in catering kitchen) is recorded in the space indicating delivery location.
5. **ORDER FORM COPIES:** For each order taken, four copies must be made; one original and three carbon copies. The following is a list of people who receive a copy of the order form and where each copy is sent:
 - * catering receptionist (Placed in mail box in Catering Office).
 - * catering supervisor (Brought down to catering kitchen).
 - * foodservice supervisor (Placed in mail box in Catering Office).
 - * salad foodservice worker (Brought down to production area).

The Catering Office keeps a copy of each order form for use with food frequency information and office records. Order forms are used in the catering kitchen to coordinate deliveries (Please see policy DT-05 for additional information on coordination of deliveries). The foodservice supervisor uses the order form copy to ensure that necessary food ingredients are in stock for the order(s) and to schedule the staff needed to prepare and deliver the order(s). The salad foodservice worker receives a copy of each order form to determine what production needs to be done and what time it needs to be completed.

6. **SCHEDULE FOR PLACING AN ORDER:** Green Gourmet customers can place an order in advance or on the day of delivery until 9:30 am. When orders are placed in advance, the copies are put in their appropriate locations (Please see procedure five of this policy) as soon as possible. This will enable the foodservice supervisor to plan ahead for purchasing and labor. When taking same day orders, a copy is put in the foodservice supervisor's mailbox after each order is taken. Copies can be distributed to the catering kitchen and production area at one time (9:31 am is suggested).

DATE ADOPTED: _____ DATE REVISED: _____

POLICY NAME: Green Gourmet bank.	FILE CODE: DT-03 (Page 1 of 2)
PURPOSE: To describe steps to be taken when using a Green Gourmet bank.	
RESPONSIBILITY: Green Gourmet delivery personnel and catering receptionist.	

PROCEDURES:

1. **GREEN GOURMET BANK:** A Green Gourmet bank is a bag/container that holds money. The money is used to provide change for Green Gourmet customers who pay cash for their Green Gourmet order. The bank contains \$ 25.00 total with the following breakdown of change:
 - (1) ten dollar bill
 - (2) five dollar bills
 - (14) quarters
 - (9) dimes
 - (10) nickels
 - (10) pennies
2. **LOCATION OF BANKS:** The Green Gourmet banks (two) are kept in the M.S.U. Union Business Office. At the beginning of each day (8:00 am) the catering receptionist will sign a release form in the Business Office and pick up both banks (Please see Appendix F for a sample release form). The banks are kept with the receptionist in the Catering Office until picked up by a Green Gourmet delivery person.
3. **DELIVERY PERSONNEL:** When scheduled to do a Green Gourmet delivery or pick-up, a Green Gourmet bank is picked up from the catering receptionist. The bank will be carried on the deliveries or brought down to the catering kitchen (pick-up orders only) by the delivery person to provide change for customers. When the deliveries and pick-ups are completed, the bank, money received, and a copy of each order form are returned to the catering receptionist.
4. **CATERING RECEPTIONIST:** Once Green Gourmet deliveries and pick-ups are completed and the bank, money received, and a copy of the order form(s) are each returned, the catering receptionist is responsible for them. The money collected for each order is separated from the bank and returned to the Business Office with the corresponding order form. Additionally, the catering receptionist is responsible for counting the bank to ensure that it totals \$ 25.00 and

GREEN GOURMET BANK
(Page 2 of 2)

returning it to the Business Office. Given the bank totals \$ 25.00, the business office will provide change to return the bank to the original breakdown described in procedure number one above.

5. **THEFT:** If a Green Gourmet delivery person is robbed or comes up short on a bank or order, the foodservice manager will determine the appropriate action to take.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Interdepartmental transfer (IDT).	FILE CODE: DT-04 (Page 1 of 2)
PURPOSE: To describe steps to be taken when using an IDT for Green Gourmet.	
RESPONSIBILITY: Green Gourmet delivery personnel and catering receptionist.	

PROCEDURES:

1. **INTERDEPARTMENTAL TRANSFER (IDT) ORDERING:** Green Gourmet orders can be charged to an M.S.U. account using an IDT number. IDT's are used to charge items and services related to M.S.U. business such as a meeting. IDT's can be used for both delivery and take-out orders. When placing an IDT order, the only additional information that a customer needs to provide is the account number to which the order is to be charged, the department to be charged, the number of people who will be eating lunch at the meeting, and the purpose of the meeting.
2. **RECORDING AN IDT ORDER:** There are only a few differences between taking a regular (cash) order and taking an IDT order. First, the IDT form number, the IDT account number, the department charging the order, the number of people at the lunch meeting, and the purpose of the meeting are recorded at the bottom of the order form. Second, an IDT order does not include tax in the total price. Aside from the above exceptions, the catering receptionist completes the order form as explained in policy DT-02.
3. **IDT FORM:** In addition to the order form, an IDT form must be completed. The IDT form includes the following:
 - * IDT account number
 - * Department being billed for order
 - * Billing address
 - * Phone number of individual placing the order
 - * Function/delivery date
 - * Explanation of business meeting
 - * Names of individuals attending the meeting
 - * Each item ordered, quantity ordered, and price (put next to corresponding item)
 - * Subtotal and total
 - * Sub-total, delivery charge and total charge

INTERDEPARTMENTAL TRANSFER
(Page 2 of 2)

All information is typed on the IDT form by the catering receptionist. After the IDT form is completed, it is attached to the order form copy that is sent to the salad foodservice worker (Please see Appendix G for a sample IDT form).

4. **DELIVERY PERSONNEL:** When doing a delivery for an IDT order, a Green Gourmet bank is not needed. Instead, the customer receiving the order (name is at the top of the order form) signs the IDT form and is billed for the amount owed. The delivery person gives the customer the pink copy of the IDT form for their records. The remaining IDT form copies are returned to the catering receptionist with the attached order form copy.
5. **CATERING RECEPTIONIST:** Once the delivery person returns with the signed IDT form and order form copy, they are given to the catering receptionist. The receptionist is responsible for bringing the IDT and order form copies to the Business Office. The Business Office, in turn, is responsible for the billing process.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Coordination of deliveries.

FILE CODE: DT-05
(Page 1 of 2)

PURPOSE:

To describe procedures needed to coordinate Green Gourmet deliveries.

RESPONSIBILITY:

Catering supervisor and Green Gourmet delivery personnel.

PROCEDURES:

1. **RECEIVING ORDER FORMS:** Once a Green Gourmet order is received, a copy is brought down to the catering supervisor in the catering kitchen. The catering supervisor is responsible for incorporating Green Gourmet orders into the delivery schedule each day. Green Gourmet deliveries are done with catering deliveries between 11:00 am and 12:30 pm Monday through Friday.
2. **SCHEDULING:** Use of same day ordering increases the difficulty of accurately determining the quantity of Green Gourmet orders that will need to be delivered on a particular day. Therefore, every day there is at least one student scheduled as a Green Gourmet delivery person. The student(s) is responsible for delivering Green Gourmet orders between 11:00 am and 12:30 pm. In addition to Green Gourmet orders, the Green Gourmet delivery person is also responsible for catering items that need to be delivered (number and time of deliveries is determined by the catering supervisor). A delivery schedule is kept in the catering kitchen as a reference (Please see Appendix H for a sample delivery schedule). The delivery schedule lists the name of the delivery person and the deliveries for which they are responsible for delivering that day.
3. **LARGE QUANTITY OF ORDERS:** In the event there is a large quantity of Green Gourmet orders for a particular day, more than one delivery person may be needed. The catering supervisor is responsible for determining the need for additional delivery personnel. If additional help is needed, the catering supervisor uses staff from other areas in the catering department (specific areas and number of students is determined by the catering supervisor).
4. **SMALL QUANTITY OF ORDERS:** In the event there is a small quantity (N=2) of Green Gourmet orders for a particular day, and each have a different delivery time, more than one delivery run may need to be made. This is done to ensure that all orders are delivered at their appropriate time and maintain a safe temperature. For example, if two Green

COORDINATION OF DELIVERIES
(Page 2 of 2)

Gourmet orders are taken for a particular day and one has a delivery time of 11:00 am and the other 12:30 pm, both could not be done in the same trip. The delivery person would, therefore, need to coordinate blocks of time to do the deliveries (deliver a certain number of orders, go back and pick up the next set of orders, deliver them, and so on until the deliveries are completed). The number of delivery blocks would be dependent upon the number of Green Gourmet and catering orders to be done between 11:00 am and 12:30 pm that day.

DATE ADOPTED: _____ DATE REVISED: _____

POLICY NAME:
Delivery preparation.

FILE CODE: DT-06
(Page 1 of 2)

PURPOSE:
To provide information necessary to complete deliveries.

RESPONSIBILITY:
Green Gourmet delivery personnel.

PROCEDURES:

1. **DELIVERY SCHEDULE:** Green Gourmet delivery personnel are to check in the catering kitchen to determine what deliveries they are responsible for that day (Please see policy DT-05 for information on coordination of deliveries). Green Gourmet orders are attached to a clip board which corresponds to the delivery date.
2. **BANK:** A Green Gourmet bank is picked up (unless an IDT is being used, please see policy DT-04) from the catering receptionist before a delivery is made. The purpose of the bank is to provide change for customers.
3. **TRANSPORTATION:** Green Gourmet delivery personnel are responsible for picking up the keys to one of two delivery vans available for Green Gourmet deliveries. Keys for the delivery vehicles are located in the catering kitchen. The keys (two sets) are numbered 197 and 11 and correspond with the number listed on the delivery van (Please see policy DT-07 for additional information on transportation for deliveries).
4. **PICKING UP ORDERS:** Completed Green Gourmet orders are stored in a cooler in the Green Gourmet production area (Please see the salad foodservice worker for assistance). When picking up an order, the delivery person is responsible for checking the order to make sure it is complete. The following is a list of items to be checked:
 - * Order form (with IDT if applicable)
 - * Entrees
 - * Ala carte
 - * Beverages
 - * Packing

If an order is not complete, the salad foodservice worker is notified immediately to complete the order. Once completed, the delivery person loads the order(s) into the designated delivery van.

DELIVERY PREPARATION
(Page 2 of 2)

5. **LOADING DELIVERY VAN:** The delivery vans are parked next to the back dock of the M.S.U. Union Building (north side). Small orders can be carried to the van and loaded. When large orders need to be loaded, the delivery vans can be backed up to the loading dock for easy access.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Transportation for deliveries.	FILE CODE: DT-07
PURPOSE: To describe the use and care of transportation for Green Gourmet deliveries.	
RESPONSIBILITY: Green Gourmet delivery personnel.	

PROCEDURES:

1. **LOCATION OF DELIVERY VEHICLES:** There are two delivery vans available for Green Gourmet deliveries. The vehicles are numbered 197 and 11 and are located in designated parking spots at the back dock of the M.S.U. Union Building. The delivery vans are to be parked in their designated areas after returning from a delivery. Keys for the delivery vehicles are located in the catering kitchen.
2. **LOADING DELIVERY VEHICLE:** Completed orders are stored in coolers in the production area. The delivery person is to pick up their orders from the production area and load their van with the lunches for which they are responsible. When large orders need to be loaded, the delivery vans can be backed up to the loading dock for easy access.
3. **PARKING:** While at a Green Gourmet delivery site, the delivery vehicles are to be parked in areas which are specifically for M.S.U. owned vehicles. This will prevent any unnecessary parking tickets. In the event no parking spots are available near the delivery site, the delivery person is to look for another parking spot in the area. The delivery van is not to be parked in an illegal spot.
4. **GASOLINE:** Delivery vans are to have at least 1/4 tank of gasoline at all times. If the tank is low and needs to be filled, there are gasoline pumping instructions attached to the keys. Gasoline is received at university pumps located on the east side of the M.S.U. football stadium. Gasoline is charged to M.S.U. Union Foodservice through a credit procedure. Charging instructions are also attached to the keys.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Delivery sites.

FILE CODE: DT-08

PURPOSE:
To provide information on Green Gourmet delivery sites.

RESPONSIBILITY:
Green Gourmet delivery personnel.

PROCEDURES:

1. **DETERMINING DELIVERY SITE:** Green Gourmet orders are delivered to the address listed on the order form (Please see Appendix E for a copy of the Green Gourmet order form). Green Gourmet delivery personnel are responsible for knowing the location of their delivery site(s). If there is uncertainty about a location, a campus directory is available in the Catering Office and in each of the delivery vans.
2. **DELIVERY SITES:** Green Gourmet will deliver to all buildings located on the M.S.U. campus except for the M.S.U. Library. No deliveries will go to the Library because there is already an existing foodservice operation in that building. Green Gourmet will also deliver to the Hannah Technical Building located off campus on South Hagadorn. This facility is included in the delivery route because those who work there are employees of M.S.U..
3. **PARKING AT DELIVERY SITE:** While at a Green Gourmet delivery site, the delivery vehicles are to be parked in areas which are specifically for M.S.U. owned vehicles. This will prevent any unnecessary parking tickets. In the event no parking spots are available near the delivery site, the delivery person is to look for another parking spot in the area. The delivery van is not to be parked in an illegal spot.
4. **CUSTOMER ABSENCE:** In the event that the customer is not at the requested delivery site at the time of delivery, the delivery person is to attempt fund collection and leave the order with a co-worker. If it is not possible to collect funds, the order is to be returned to the M.S.U. Union Station Cafe.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Take-out/pick-up purchases.

FILE CODE: DT-09
(Page 1 of 2)

PURPOSE:
To describe purchasing procedures for Green Gourmet take-out/pick-up orders.

RESPONSIBILITY:
Catering receptionist and Green Gourmet delivery personnel.

PROCEDURES:

1. **TAKING AN ORDER FOR A PICK-UP:** Green Gourmet customers can pick up their order at the M.S.U. Union catering kitchen instead of having the order delivered. When taking an order that will be picked up, the catering receptionist writes "P.U.C.K" on the order form. "P.U.C.K" is written in the space provided for the delivery address.
2. **PROCESSING PICK-UP ORDERS:** The Green Gourmet delivery person is responsible for processing pick-up orders. The following are included in the process: (A) The delivery person picks up completed orders in the production area, (B) Each order is placed in a clean cardboard box (box can be obtained from the foodservice supervisor), (C) Each order is transported to the catering kitchen and placed in a cooler, (D) The cooler number in which the order(s) was placed, is recorded on the catering kitchen order form copy (allowing other staff to know where an order is in the absence of the delivery person), and (E) Each order form is kept in the catering kitchen, attached to the clip board, until the customer picks up the order.
3. **MONEY COLLECTION FOR PICK-UP ORDERS (IDT):** If the pick-up order is on an IDT, the IDT will be attached to the order. The customer receiving the order (name is at the top of the order form) signs the IDT form and is billed for the amount owed. The delivery person gives the customer the pink copy of the IDT form for their records. The remaining IDT form copies are returned to the catering receptionist with the order form (catering kitchen copy). Please see policy DT-04 for additional information on IDT's.
4. **MONEY COLLECTION FOR PICK-UP ORDERS (CASH):** If a pick-up order is going to be paid in cash, a Green Gourmet bank is needed. The delivery person is responsible for obtaining a bank and bringing it to the catering kitchen (Please see policy DT-03 for procedures on obtaining a Green Gourmet bank). After the customer has paid and picked up their

TAKE-OUT/PICK-UP PURCHASES
(Page 2 of 2)

order, the delivery person is responsible for returning the bank to the catering receptionist. Included with the returned bank is the money collected and the order form (catering kitchen copy).

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Cafe purchases.

FILE CODE: DT-10

PURPOSE:

To describe purchasing procedures for Green Gourmet entrees sold in the M.S.U. Union Station Cafe.

RESPONSIBILITY:

Cashier on duty.

PROCEDURES:

1. **SELECTION:** Green Gourmet entrees are produced for sale in the M.S.U. Union Station Cafe. The selection of entrees varies each day (Please see policy FP-16 for additional information on entree selections). Customers do not need to order a Green Gourmet entree that is sold in the cafe. Instead, they select available Green Gourmet entrees as they pass through the lunch line.
2. **PRICE:** Green Gourmet entrees sold in the cafe are priced according to the Green Gourmet menu (Please see Appendix A for a sample menu). Price cards have been developed for each Green Gourmet entree. Each card contains the entree name and price. The price cards are placed on the Green Gourmet cooling unit behind the corresponding entree(s).
3. **PURCHASING:** Green Gourmet entrees are paid for at one of two cafe cash registers. Green Gourmet sales are included as part of Union Station Cafe sales (Please see policy CC-01 for additional information on recording Green Gourmet sales).

DATE ADOPTED: _____ **DATE REVISED:** _____

SECTION 3.**PURCHASING AND STORAGE****POLICY NAME****FILE CODE**

Food Purchases for Green Gourmet.....	PS-01
Food Supply.....	PS-02
Emergency Purchases.....	PS-03
Refrigerator and Freezer Temperatures.....	PS-04
Storage of Leftovers.....	PS-05
Additional Storage Space.....	PS-06

POLICY NAME:
Food purchases for Green Gourmet.

FILE CODE: PS-01
(Page 1 of 2)

PURPOSE:

To describe the procedures for purchasing food and non-food products.

RESPONSIBILITY:

Stock handler and catering supervisor.

PROCEDURES:

1. **ORDERING:** The M.S.U. Union Catering/Cafe stock handler is responsible for ordering all food ingredients and non-food products for Green Gourmet, catering, and the cafe. Food ingredients are not ordered specifically for Green Gourmet. Instead, Green Gourmet uses ingredients ordered for catering and cafe production.
2. **SPECIAL FOOD ORDER:** There is only one food item that needs to be ordered specifically for Green Gourmet, oat bran muffins. The muffins are ordered from Dawn Donuts and come one dozen per box. The Green Gourmet production personnel are responsible for keeping inventory on Green Gourmet oat bran muffins (muffins are stored in the cafe walk-in freezer). When the oat bran muffin supply is low (half dozen), the catering supervisor is contacted to order another supply.
3. **SPECIAL NON-FOOD ORDERS:** Green Gourmet packaging materials are ordered specifically for Green Gourmet. Packaging materials include the following:
 - * Platters
 - * Platter lids
 - * Place mats
 - * Napkins
 - * Plasticware
 - * Soup containers
 - * Soup container lids
 - * Souffle cups
 - * Souffle cup lids

The stock handler is responsible for ordering Green Gourmet packaging materials. Packaging materials are ordered from M.S.U. Food Stores. A supply of packaging materials is kept in the Green Gourmet production area (one box of each item listed above). Additional supplies are kept in the cafe kitchen storeroom. Inventory is done once per month on all Green Gourmet packaging materials. Inventory is done by the salad foodservice worker who, in turn, notifies the stock handler to place an order.

FOOD PURCHASES FOR GREEN GOURMET
(Page 2 of 2)

4. **PURCHASE-ORDER SYSTEM:** M.S.U. Union Catering, which includes Green Gourmet and the Union Station Cafe, uses a computerized purchase-order system. Food and non-food orders are placed using an M.S.U. designed ordering system. Once orders are placed, they are sent to M.S.U. Food Stores via computer. The system is complex and quite detailed. This manual will not go into greater detail on the purchase-order system because it is not directly related to Green Gourmet. Oat bran muffins are the only Green Gourmet items which are not ordered through M.S.U. Food Stores. The muffins are ordered through Dawn Donuts and billed to M.S.U. Union Catering via M.S.U. Food Stores.
5. **RECEIVING:** The stock handler is responsible for receiving food and non-food items purchased. All products are delivered to the receiving dock at the M.S.U. Union Building and received by the stock handler. A receiving invoice is signed by the stock handler after the shipment has been checked for accuracy. Receiving invoices are sent to the M.S.U. Union Business Office where the amount due is entered into accounts payable for M.S.U. Union Catering.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Food supply.

FILE CODE: PS-02
(Page 1 of 2)

PURPOSE:

To describe which foods are kept in stock and used for Green Gourmet.

RESPONSIBILITY:

Stock handler.

PROCEDURES:

1. **LARGE QUANTITIES:** The following foods are used for Green Gourmet and kept in stock in large quantities:

- * Fresh fruits (apples, oranges, strawberries, cantaloupe, honeydew, pineapple, and red and green grapes)
- * Fresh vegetables (onions, peppers, lettuce, cucumbers, carrots, tomatoes, mushrooms, broccoli, and celery)
- * Frozen chicken breasts
- * Frozen seafood (fish, imitation crab, and shrimp)
- * Canned tuna fish
- * Frozen deli meats (beef, ham, and turkey)
- * Frozen bread (loaves, pita, dinner rolls, and croissants)
- * Crackers
- * Spaghetti
- * Eggs
- * Cheese (cheddar, swiss, parmesan, and feta)
- * Yogurt
- * Condiments (dill pickles, mustard, Miracle Whip salad dressing, chili sauce, honey, margarine, and italian dressing)
- * White vinegar
- * Canned black olives
- * Corn oil
- * Beverages (milk, juice, and pop)
- * Frozen jumbo cookies
- * Frozen and fresh soup

2. **SMALL QUANTITIES:** The following foods are used for Green Gourmet and kept in stock in small quantities:

- * Spices (ginger and garlic)
- * Soy sauce
- * Sesame oil
- * Nuts and seeds (almonds and sesame seeds)
- * Greek dressing mix

FOOD SUPPLY
(Page 2 of 2)

3. **DETERMINING THE QUANTITY OF FOOD TO PURCHASE:** The stock handler is responsible for determining the quantity of food to purchase. The amounts ordered are based on historical data, perishability, customer demand, inventory, and experience. Inventory is done by the stock handler on a weekly basis.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Emergency purchases.	FILE CODE: PS-03
PURPOSE: To establish emergency food purchasing procedures for Green Gourmet.	
RESPONSIBILITY: Foodservice supervisor and salad foodservice worker.	

PROCEDURES:

1. **EMERGENCY PURCHASES:** Sometimes Green Gourmet will need a specific food or supply item that was overlooked during the ordering process. A large order or unexpected additional orders may require emergency purchases.
2. **NOTIFICATION:** The Green Gourmet salad foodservice worker is responsible for notifying the foodservice supervisor if an emergency purchase needs to be made. The supervisor should be notified as soon as possible to allow enough time for ordering, receiving, production, and delivery/take-out.
3. **ORGANIZING AN EMERGENCY PURCHASE:** The foodservice supervisor is responsible for organizing emergency purchases. Organization includes ordering, purchasing, and receiving. Often, regular suppliers, such as M.S.U. Food Stores, cannot accommodate emergency purchases because of time constraints. The foodservice supervisor determines alternative sources of supply. Also, an available catering employee is usually sent to pick up an emergency purchase.
4. **PURCHASE CONFIRMATION:** Green Gourmet production personnel are notified of any emergency purchase and the expected delivery time(s). Confirmation of emergency purchases helps the production personnel work more efficiently.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Refrigerator and freezer temperatures.	FILE CODE: PS-04
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PURPOSE:

To establish ranges for the proper temperatures of refrigerators and freezers used for food storage.

RESPONSIBILITY:

Stock handler.

PROCEDURES:

1. **PROPER REFRIGERATION TEMPERATURES:** The following is a list of refrigerators and freezers and the temperatures at which they are to be maintained (MEHA, 1989):

- * First walk-in refrigerator (fresh fruit and dairy products):
45°F/7°C or below
- * Second walk-in refrigerator (meat, eggs, and poultry):
45°F/7°C or below
- * Third walk-in refrigerator (fresh vegetables and condiments):
45°F/7°C or below
- * Reach-in coolers (leftover ingredients and entrees):
45°F/7°C or below
- * Walk-in freezers (bread, seafood, meat, poultry, cookies, and soup):
0°F/-18°C or below

It has been recognized that certain types of bacteria can grow at temperatures below 45°F/7°C. Some of these bacteria include Clostridium botulinum, Yersinia enterocolitica, Staphylococcus aureus, and Listeria monocytogenes (Institute of Food Technologists' Expert Panel on Food Safety & Nutrition, 1988). Recognizing the potential problems with foods stored at a refrigeration temperature of 45°F/7°C, a refrigeration temperature of 40°F/4°C or below is recommended (USDA-FSIS, 1990).

2. **MAINTENANCE RESPONSIBILITY:** The stock handler is responsible for checking refrigerator and freezer temperatures once each day. If a refrigeration or freezer unit is not functioning properly, the maintenance department is notified immediately.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Storage of leftovers.

FILE CODE: PS-05
(Page 1 of 2)

PURPOSE:
To describe the method of labeling and storing leftover foods.

RESPONSIBILITY:
Salad foodservice worker and Green Gourmet production personnel.

PROCEDURES:

1. **STORAGE OF FOOD INGREDIENTS:** Any leftover Green Gourmet food ingredients are stored in reach-in coolers in the Green Gourmet production area. Leftover ingredients are put into plastic or stainless steel containers and covered with plastic wrap. The current date is recorded on the plastic wrap. This inventory is used first as part of food production needs for the coming week. Please see policies FP-06 through FP-11 for more information on storage.
2. **COLORLED-CODED LABELING SYSTEM:** After a Green Gourmet entree is produced for sale on the cafe line, it is coded with a colored dot (located in the Green Gourmet production area). The dot represents the day the entree was made. The following is a list of days of the week and their relative color coded dot:
 - * Monday-blue dot
 - * Tuesday-green dot
 - * Wednesday-orange dot
 - * Thursday-red dot
 - * Friday-yellow dot

The system was developed to ensure proper rotation and disposal of leftover entrees. Entrees are on a two day rotation cycle. For example, if 25 entrees are produced on Monday and five are leftover, they would be put on display Tuesday (leftover entrees are to be sold before fresh ones). However, if there are still three entrees leftover from Monday on Wednesday, they would be thrown away. All Green Gourmet entrees are thrown away if they are not sold in two days.

STORAGE OF LEFTOVERS**(Page 2 of 2)**

3. **STORAGE OF LEFTOVER ENTREES:** Leftover Green Gourmet entrees from the cafe line are stored in a reach-in cooler kept at 45°F/7°C or below (MEHA, 1989). There are two reach-in coolers available for storage. The coolers are located along the west wall, behind the Green Gourmet section in the cafe (Please see policy DT-10 for more information on cafe purchases).

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Additional storage space.	FILE CODE: PS-06 (Page 1 of 2)
PURPOSE: To describe which Green Gourmet products are kept in the dry storage room and cafe kitchen storeroom.	
RESPONSIBILITY: Stock handler and salad foodservice worker.	

PROCEDURES:

1. **DRY STORAGE ROOM:** The dry storage room is located next to the walk-in refrigerators and freezer. The dry storage room is used to store non-perishable foods and supplies, many of which are used for Green Gourmet. The following is a list of Green Gourmet items that are stored in the dry storage room:

- * Honey
- * Spices (ginger and garlic)
- * Crackers
- * Spaghetti
- * Canned tuna fish
- * Nuts and seeds (almonds and sesame seeds)
- * Soy sauce
- * Oil (sesame and corn)
- * White vinegar
- * Canned black olives
- * Greek dressing mix
- * Souffle cups and lids (2.5 oz and 5.0 oz)
- * Wet-naps

All foods are stored off the floor on wooden shelves or dunnage racks. Foods are stocked in such a manner that the oldest ones are used first (first-in, first-out method). The stock handler is responsible for inventory once per week and rotating stock.

2. **CAFE KITCHEN STOREROOM:** The cafe kitchen storeroom is located next to the rest rooms on the south side of the kitchen. The storeroom is used to store Green Gourmet packaging materials. The following is a list of packaging materials that are stored in the cafe kitchen storeroom:

- * Platters
- * Platter lids
- * Napkins
- * Place mats
- * Plasticware
- * Soup containers
- * Soup container lids

ADDITIONAL STORAGE SPACE
(Page 2 of 2)

All packaging materials are stored off the floor on shelves/racks. Inventory is done once per month on all Green Gourmet packaging materials. Inventory is done by the salad foodservice worker who, in turn, notifies the stock handler to place an order.

DATE ADOPTED: _____ **DATE REVISED:** _____

FOOD PRODUCTION VOCABULARY

- (1) **FOOD PRODUCTION:** Food production is all work associated with the production of Green Gourmet orders at the preparation and assembly levels (see below for definitions of preparation and assembly).
- (2) **PREPARATION:** Preparation is defined as the work done before assembly. Preparation includes packing (see definition below) and food preparation at the ingredient level. Food preparation includes cooking, washing, and cutting of food ingredients or any steps included in the recipe directions excluding assembly.
- (3) **ASSEMBLY:** Assembly is work done at both the recipe and packaging level. At the recipe level, assembly includes combining ingredients together, according to recipe specifications, to produce a complete entree. At the packaging level, assembly includes putting the completed entree onto a Green Gourmet platter, covering the entree with a platter lid, attaching scotch tape to each end of the lid/platter, and attaching a nutritional analysis sticker to the top of the platter lid.
- (4) **PACKING:** Packing is the non-food items which are included with each Green Gourmet order. Green Gourmet packing includes one of each of the following:
 - * Green Gourmet place mat/person
 - * Green Gourmet napkin/person
 - * Green Gourmet plasticware set (knife, fork, spoon)/person
 - * Wet-nap/person
 - * Straw/beverage (if applicable)

Packing for each order is placed in a bus tub (plastic container).

SECTION 4.

FOOD PRODUCTION

<u>POLICY NAME</u>	<u>FILE CODE</u>
Standardized Recipes for Green Gourmet.....	FP-01
Recipe Development and Testing.....	FP-02
Green Gourmet Recipe Notebook.....	FP-03
Green Gourmet Production Area.....	FP-04
Preparation and Storage.....	FP-05
Preparation and Storage of Chicken Breasts.....	FP-06
Preparation and Storage of Seafood.....	FP-07
Preparation and Storage of Eggs.....	FP-08
Preparation and Storage of Salad Ingredients.....	FP-09
Preparation and Storage of Pasta.....	FP-10
Preparation and Storage of Dressings.....	FP-11
Cooking: Convection Oven.....	FP-12
Cooking: Steam-Jacketed Kettle.....	FP-13
Cooking: High-Pressure Steamer.....	FP-14
Food Assembly.....	FP-15
Cafe Line.....	FP-16

POLICY NAME:

Standardized recipes for Green Gourmet.

FILE CODE: FP-01**PURPOSE:**

To describe the recipes used to produce Green Gourmet entrees.

RESPONSIBILITY:

Salad foodservice worker and Green Gourmet production personnel.

PROCEDURES:

1. **GREEN GOURMET RECIPES:** A standardized recipe exists for each Green Gourmet entree (Please see Appendix I for sample Green Gourmet recipes). The entrees are produced according to the recipe specifications.

2. **RECIPE FORMAT:** A standardized format is maintained for all recipes. Each recipe contains the following information:

- * Name of entree
- * Ingredients
- * Ingredient weights (measures where appropriate)
- * Packaging materials
- * Preparation instructions

Each recipe is written for one serving because Green Gourmet entrees are often produced on an individual basis. Also, recipes are written to be understood by employees with minimal foodservice knowledge.

3. **RECIPE STORAGE:** All Green Gourmet recipes are stored in a recipe notebook (Please see policy FP-03 for additional information on the Green Gourmet recipe notebook). The notebook is kept in the production area so it will be easily accessible to the salad foodservice worker and Green Gourmet production personnel.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Recipe development and testing.	FILE CODE: FP-02 (Page 1 of 2)
PURPOSE: To describe the process used to develop and test Green Gourmet entree recipes.	
RESPONSIBILITY: Foodservice manager and foodservice supervisor.	

PROCEDURES:

1. **MENU CRITERIA:** There are several criteria which must be met for entrees to appear on the Green Gourmet menu. The following is a list of those criteria:

- * 375 kilocalories or less per entree _____ at least
- * 30 percent or less of the calories from fat _____ 50% of entrees
- * Ingredients are to be readily available throughout the year
- * Must be a cold sandwich or salad
- * Names are to reflect fresh, gourmet food
- * Must be able to be packaged in Green Gourmet packaging materials

Please see policy MP-01 for additional information on the Green Gourmet menu.

2. **WEIGHTS AND MEASURES:** During testing, the ingredients are listed by weight in ounces or by measure. To determine weight, a top-loading scale is used. To determine measure, measuring spoons and cups are used. As the recipe is being produced, instructions are also recorded.
3. **FOOD PRESENTATION:** Each new entree is arranged on a Green Gourmet platter to determine food presentation. The platter lid is put on the platter after the entree is complete. It is necessary that each entree be compatible with available Green Gourmet packaging materials.
4. **FOOD COST AND SELLING PRICE:** The cost of each ingredient (including packaging) is determined and a food cost and selling price is calculated (Please see policy MP-04 for more information on food cost and selling price calculations).

RECIPE DEVELOPMENT AND TESTING
(Page 2 of 2)

5. **SENSORY EVALUATION:** Recipes go through a sensory evaluation to ensure that the product is superior in taste, smell, and appearance. An informal sensory evaluation is conducted by the foodservice supervisor after the new product is finished. Green Gourmet and catering personnel are panelists for the sensory evaluation. The evaluation is done only one time.
6. **STANDARDIZED RECIPE FORMAT:** Once the sensory analysis is complete, the recipe is then put into the standardized recipe format followed by Green Gourmet (Please see Appendix I for sample Green Gourmet recipes)
7. **POLAROID PICTURE:** A polaroid picture is taken of each Green Gourmet entree. Pictures are taken by the foodservice supervisor. The camera and film are located in the Catering Office and are obtained by the foodservice supervisor. Included in the picture is the completed entree, garnish (if applicable), condiments (for sandwiches), dressing (for salads), and packaging (plate and lid; lid off). The picture is placed next to its corresponding recipe in the Green Gourmet recipe notebook. The picture is a visual tool used to help production employees produce consistent products.
8. **MENU SPECIAL:** New entrees can be run as a special on the Green Gourmet menu to establish customer acceptability. Specials are run on the menu for one month. If a new entree is acceptable to Green Gourmet customers (as determined by the foodservice manager), it is included on the next Green Gourmet menu (Please see policy MP-02 for more information on menu revisions).

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Green Gourmet recipe notebook.	FILE CODE: FP-03
PURPOSE: To describe the notebook used to store Green Gourmet recipes.	
RESPONSIBILITY: Foodservice supervisor and catering receptionist.	

PROCEDURES:

1. **NOTEBOOK PURPOSES:** The purposes of the Green Gourmet recipe notebook are to protect recipes from damage during production and provide employees with access to Green Gourmet recipes so that entrees can be consistently produced for sale.
2. **RECIPE FORMAT:** Green Gourmet recipes are typed in a standardized recipe format (Please see Appendix I for sample Green Gourmet recipes). Typing is done by the catering receptionist.
3. **PROTECTION:** Each Green Gourmet recipe is placed in a plastic sleeve inside the Green Gourmet recipe notebook. The plastic sleeve protects the recipe from damage during production.
4. **POLAROID PICTURE:** Each recipe is accompanied by a polaroid picture (Please see policy FP-02 for additional information on polaroid pictures). The picture is also placed in a plastic sleeve for protection from damage. The picture is a visual tool used to help Green Gourmet production personnel produce consistent products.
5. **NOTEBOOK STORAGE:** The Green Gourmet recipe notebook is stored in the Green Gourmet production area with several other recipe notebooks. After use, the notebook is returned to its storage location.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Green Gourmet production area.

FILE CODE: FP-04

PURPOSE:

To describe the location where Green Gourmet food items are produced, packaged and stored.

RESPONSIBILITY:

Salad foodservice worker and Green Gourmet production personnel.

PROCEDURES:

1. **PRODUCTION AREA LOCATION:** Green Gourmet food production takes place in the M.S.U. Union Station Cafe kitchen. The production area is located in the northeast section of the cafe. All Green Gourmet production is done in this area at all times.
2. **PRODUCTION AREA STORAGE (SUPPLIES):** A small supply of Green Gourmet packaging materials (platters/lids, napkins, place mats, plasticware, and souffle cups/lids) are kept in the production area for easy access. The remaining packaging materials are stored in the cafe kitchen storeroom (Please see policy PS-06 for additional information on the cafe kitchen storeroom). Keys for the storeroom can be obtained from the foodservice supervisor.
3. **PRODUCTION AREA STORAGE (COOLERS):** Three reach-in coolers are located in the Green Gourmet production area. These coolers are used to store Green Gourmet dressings and leftover ingredients. Keys for the coolers can be obtained from the foodservice supervisor.
4. **PRODUCTION AREA STORAGE (COLD CART):** One transportable cold cart is located in the Green Gourmet production area. The cold cart is used to store completed Green Gourmet orders. Keys are not needed for the cold cart.
5. **PRODUCTION AREA CLEAN-UP:** The production area is cleaned thoroughly each day after production is complete. During production a clean-as-you-go policy is used by production personnel (Please see policy PS-02 for additional information on cleaning of production area).

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Preparation and storage.	FILE CODE: FP-05 (Page 1 of 2)
PURPOSE: To establish methods for storage and advanced preparation of Green Gourmet delivery/take-out orders.	
RESPONSIBILITY: Salad foodservice worker and Green Gourmet production personnel.	

PROCEDURES:

1. **PREPARATION:** Preparation includes packing (Please see procedure # 2 below) and food preparation at the ingredient level (Please see policies P-06 through P-11 for preparation of food ingredients). Preparation is necessary for delivery and take-out orders if they are brought down to the catering kitchen in advance to the day of delivery/pick-up. Preparation will be done from 6:30 am to 8:00 am. The amount of preparation will be determined by the number of delivery and take-out orders on the production board. Please see food production vocabulary in the beginning of this section for a complete definition of preparation.
2. **PACKING:** Packing for Green Gourmet delivery and take-out orders can be done prior to the day of delivery/pick-up. Packing for each order is placed in a bus tub (plastic container). Bus tubs are located in the cafe dish room along the north wall. The packing includes one of each of the following:
 - * Green Gourmet place mat/person
 - * Green Gourmet napkin/person
 - * Green Gourmet plasticware set/person
 - * wet-nap/person
 - * straw/beverage (if applicable)

Please see food production vocabulary in the beginning of this section for a complete definition of packing.

3. **STORAGE (FOOD):** Any food ingredients that are prepared in advance to product assembly are stored in a cooler in the Green Gourmet production area. Completed entrees are stored in the cold cart in the Green Gourmet production area.

PREPARATION AND STORAGE
(Page 2 of 2)

4. **STORAGE (PACKING):** Bus tubs, with packing, are stored in the Green Gourmet production area. The exact storage location depends on the amount of space available.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:

Preparation and storage of chicken breasts.

FILE CODE: FP-06**(Page 1 of 2)****PURPOSE:**

To establish methods for storage and advanced preparation of chicken breasts.

RESPONSIBILITY:

Salad foodservice worker and Green Gourmet production personnel.

PROCEDURES:

1. **BEFORE PREPARATION:** Before preparation is started, the reach-in coolers in the Green Gourmet production area are to be checked to determine the quantity of product in stock. Prepared chicken breasts from a previous day may be available.
2. **AMOUNT OF CHICKEN TO BE PREPARED:** More chicken can be prepared than needed for one day. The extra chicken can be stored in a reach-in cooler and used for a Green Gourmet delivery, take-out or cafe line entree.
3. **LOCATION OF CHICKEN BREASTS:** Chicken breasts are stored in the cafe walk-in freezer (located next to the dry storage room) until ready for use. The chicken breasts are packaged individually and come four dozen per box.
4. **THAWING CHICKEN BREASTS:** After an order is received for a chicken salad croissant or marinated chicken salad, chicken breasts are removed from the walk-in freezer. The unwrapped chicken breasts are placed in a stainless steel counter pan (located along south wall in cafe dish room). The chicken can be thawed one of two ways: (1) Under slowly running cold water (in the Green Gourmet production area sink) for approximately thirty minutes or, (2) In a reach-in cooler in the Green Gourmet production area for approximately 12 hours. If using method #1, the thawed chicken is either covered and placed in a reach-in cooler or seasoned (marinated chicken only), cooked and refrigerated until ready for use. If method #2 is used, the chicken is kept in the counter pan, covered, and put in a reach-in cooler in the Green Gourmet production area until ready for use (MEHA, 1989).
5. **COOKING CHICKEN BREASTS:** The convection oven (Please see policy FP-12 for description of a convection oven) in the cooks' area is used for cooking chicken breasts. The oven is preheated to 350°F/177°C for five minutes. During the

PREPARATION AND STORAGE OF CHICKEN BREASTS
(Page 2 of 2)

preheating process, chicken breasts are placed on a baking tray that is lined with baking paper. The chicken is baked for ten minutes (one to ten chicken breasts) or to an internal temperature of 165°F/73°C (MEHA, 1989). After cooking, the chicken is removed from the oven to cool. The chicken is cooled in a reach-in cooler in the Green Gourmet production area. The cooling process takes approximately 15 minutes.

6. **STORAGE OF COOKED CHICKEN BREASTS-CHICKEN SALAD:** Once cooled, the chicken is diced and placed in a stainless steel counter pan, covered, dated and placed in a reach-in cooler in the Green Gourmet production area until ready for use. Please see Appendix I for a sample Chicken Salad Croissant recipe.
7. **STORAGE OF COOKED CHICKEN BREASTS-MARINATED CHICKEN:** Once cooled, the chicken is placed in a stainless steel counter pan, covered, dated and placed in a reach-in cooler in the Green Gourmet production area until ready for use. Please see Appendix I for a sample Marinated Chicken Salad recipe.

ADDITIONAL COMMENTS:

1. Please see Appendix J for a description of counter pan sizes and capacities.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:

Preparation and storage of seafood.

FILE CODE: FP-07

(Page 1 of 2)

PURPOSE:

To establish methods for storage and advanced preparation of seafood.

RESPONSIBILITY:

Salad foodservice worker and Green Gourmet production personnel.

PROCEDURES:

1. **BEFORE PREPARATION:** Before preparation is started, the reach-in coolers in the Green Gourmet production area are to be checked to determine the quantity of product in stock. Prepared seafood from a previous day may be available.
2. **AMOUNT OF SEAFOOD TO BE PREPARED:** More seafood can be prepared than needed for one day. The extra seafood can be stored in a reach-in cooler and used for a Green Gourmet delivery, take-out or cafe line entree.
3. **LOCATION OF SEAFOOD:** Fish fillets, imitation crab, and popcorn shrimp are stored in the cafe walk-in freezer (located next to the dry storage room) until ready for use. The fish fillets are packaged individually and come in 2 lb. packages. The imitation crab comes in a 2 lb. package and the shrimp comes in a 5 lb. package.
4. **THAWING OF FISH:** After an order is received for a Louis Seafood Salad, fish is removed from the walk-in freezer. The unwrapped fish is placed in a stainless steel counter pan (located along south wall in cafe dish room) and can be thawed one of two ways: (1) Under slowly running cold water (in the Green Gourmet production area sink) for approximately thirty minutes or, (2) In a reach-in cooler in the Green Gourmet production area for approximately six hours. If using method #1, the thawed fish is either covered and placed in a reach-in cooler or cooked, covered and refrigerated until ready for use. If method #2 is used, the thawed fish is kept in the counter pan, covered, and put in a reach-in cooler in the Green Gourmet production area until ready for use (MEHA, 1989).
5. **COOKING FISH FILLETS:** The high-pressure steamer (Please see policy FP-14 for description of a steamer) in the cooks area is used for cooking fish fillets. The temperature on the steamer is preset and only needs to be turned on and the timer set to operate. The fish fillets are placed in a long stainless steel counter pan. The fish is cooked for five

PREPARATION AND STORAGE OF SEAFOOD
(Page 2 of 2)

minutes (one to three fish fillets) or to an internal temperature of 140°F/60°C (MEHA, 1989) and then removed from the steamer to cool. The fish is cooled in a reach-in cooler in the Green Gourmet production area. The cooling process takes approximately 15 minutes.

6. **STORAGE OF COOKED FISH FILLETS:** Once cooled, the fish is cut into the appropriate portion size and placed in a stainless steel counter pan, covered, dated and placed in a reach-in cooler in the Green Gourmet production area until ready for use. Please see Appendix I for a sample Louis Seafood Salad recipe.
7. **THAWING AND STORAGE OF IMITATION CRAB:** After an order is received for a Louis Seafood Salad, precooked imitation crab is removed from the walk-in freezer. The unwrapped crab is placed in a stainless steel colander (located along west wall in cafe dish room) and thawed under slowly running cold water (in the Green Gourmet production area sink) for approximately 30 minutes. Or, the crab can be placed in stainless steel counter pan (located along the south wall in cafe dish room), covered, and thawed in a reach-in cooler in the Green Gourmet production area for approximately six hours. With either method, the thawed crab is covered and placed in a reach-in cooler in the Green Gourmet production area until ready for use (MEHA, 1989).
8. **THAWING AND STORAGE OF SHRIMP:** After an order is received for a Louis Seafood Salad, precooked shrimp is removed from the walk-in freezer. The unwrapped shrimp is placed in a stainless steel colander (located along west wall in cafe dish room) and thawed under slowly running cold water (in the Green Gourmet production area sink) for approximately 30 minutes. Or, the shrimp can be placed in a stainless steel counter pan (located along the south wall in cafe dish room), covered, and thawed in a reach-in cooler in the Green Gourmet production area for approximately six hours. With either method, the thawed shrimp is covered, dated and placed in a reach-in cooler in the Green Gourmet production area until ready for use (MEHA, 1989).

ADDITIONAL COMMENTS:

1. Please see Appendix J for a description of counter pan sizes and capacities.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Preparation and storage of eggs.

FILE CODE: FP-08
(Page 1 of 2)

PURPOSE:
To establish methods for storage and advanced preparation of eggs.

RESPONSIBILITY:
Salad foodservice worker and Green Gourmet production personnel.

PROCEDURES:

1. **BEFORE PREPARATION:** Before preparation is started, the reach-in coolers in the Green Gourmet production area are to be checked to determine the quantity of product in stock. Prepared eggs from a previous day may be available.
2. **AMOUNT OF EGGS TO BE PREPARED:** More eggs can be prepared than needed for one day. The extra eggs can be stored in a reach-in cooler and used for a Green Gourmet delivery, take-out or cafe line entree.
3. **LOCATION OF EGGS:** Raw eggs are stored in the second walk-in refrigerator (located next to the dry storage room) until ready for use. The eggs are packaged 30 dozen per box.
4. **COOKING EGGS:** The high-pressure steamer (Please see policy FP-14 for description of a high-pressure steamer) in the cooks' area is used for cooking eggs. The temperature on the steamer is preset and only needs to be turned on and the timer set to operate. After the steamer is turned on, the eggs are put into a stainless steel pan and placed in the steamer. The timer is set for 12 minutes (up to two dozen eggs). When the cooking process is complete, the eggs are removed from the steamer to cool. The eggs are cooled under slowly running cold water in the Green Gourmet production area sink. The cooling process takes approximately 15 minutes.
5. **STORAGE OF COOKED EGGS:** Once cooled, the eggs are peeled, rinsed, placed in a stainless steel counter pan, covered, dated and put into a reach-in cooler in the Green Gourmet production area until ready for use.

PREPARATION AND STORAGE OF EGGS
(Page 2 of 2)

ADDITIONAL COMMENTS:

1. Please see Appendix J for a description of counter pan sizes and capacities.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:

Preparation and storage of salad ingredients.

FILE CODE: FP-09**(Page 1 of 2)****PURPOSE:**

To establish methods for storage and advanced preparation of fruits and vegetables.

RESPONSIBILITY:

Salad foodservice worker and Green Gourmet production personnel.

PROCEDURES:

1. **BEFORE PREPARATION:** Before preparation is started, the reach-in coolers in the Green Gourmet production area are to be checked to determine the quantity of product in stock. Prepared fruits and vegetables from a previous day may be available.
2. **AMOUNT OF FRUIT TO BE PREPARED:** More fruit can be prepared than needed for one day. The extra fruit can be stored in a reach-in cooler and used for a Green Gourmet delivery, take-out or cafe line entree. Browning and deterioration may occur depending on the ripeness of the fruit being cut. If browning occurs, the fruit is thrown away.
3. **LOCATION OF FRUIT:** Fresh fruit is stored in the first walk-in refrigerator (located next to the dry storage room) until ready for use. Fresh fruit includes pineapple, cantaloupe, honeydew, green grapes, red grapes, strawberries, apples and oranges.
4. **PREPARATION AND STORAGE OF FRUIT:** After an order is received for a Fruit Platter or Combination Plate, the specified fruit is removed from the walk-in refrigerator. The fruit is cleaned and cut according to recipe specifications (Please see Appendix I for sample Green Gourmet recipes). During the cutting process, the fruit (mixed) is placed in a stainless steel counter pan (located along south wall in cafe dish room). The cut fruit is covered, dated and placed in a reach-in cooler in the Green Gourmet production area until ready for use. Fruits, after being cleaned and cut, will deteriorate rapidly. However, the color and freshness can be extended by coating them with pineapple juice (located in dry storage room). Fruits should be used the same day, if possible.

PREPARATION AND STORAGE OF SALAD INGREDIENTS
(Page 2 of 2)

5. **AMOUNT OF VEGETABLES TO BE PREPARED:** More vegetables can be prepared than needed for one day. The extra vegetables can be stored in a reach-in cooler and used for a Green Gourmet delivery, take-out or cafe line entree.
6. **LOCATION OF VEGETABLES:** Fresh vegetables are stored in the third walk-in refrigerator (located next to the dry storage room) until ready for use. Fresh vegetables include lettuce, celery, carrots, peppers, tomatoes, cucumbers, broccoli, mushrooms, and onions.
7. **LEAF LETTUCE:** Leaf lettuce is thoroughly rinsed under cold running water in the Green Gourmet production area sink. Once the lettuce is clean, it is dried with a clean rag (located in dry storage room). The lettuce is put into a stainless steel counter pan (located along the south wall of the cafe dish room), covered, dated and placed in a reach-in cooler in the Green Gourmet production area. Greens are inspected daily and wilted or discolored leaves thrown away.
8. **CELERY AND CARROTS:** Celery and carrots are received with the ends removed (carrots are also peeled). Each is thoroughly rinsed under cold running water in the Green Gourmet production area sink. After rinsing, the celery and carrots are cut according to recipe specifications (Please see Appendix I for sample Green Gourmet recipes). Each vegetable is put into a stainless steel counter pan (located along the south wall of the cafe dish room), covered, dated and placed in a reach-in cooler in the Green Gourmet production area.
9. **PEPPERS, TOMATOES, CUCUMBERS, BROCCOLI, MUSHROOMS AND ONIONS:** Peppers (red and green), tomatoes (hothouse and cherry), cucumbers, broccoli, mushrooms, and onions (red and green) are received whole. Each is thoroughly rinsed under cold running water in the Green Gourmet production area sink. After rinsing, each type of vegetable is cut according to recipe specifications (Please see Appendix I for sample Green Gourmet recipes). Each vegetable is put into a stainless steel counter pan (located along the south wall of the cafe dish room), covered, dated and placed in a reach-in cooler in the Green Gourmet production area.

ADDITIONAL COMMENTS:

1. Please see Appendix J for a description of counter pan sizes and capacities.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Preparation and storage of pasta.

FILE CODE: FP-10
(Page 1 of 2)

PURPOSE:
To establish methods for storage and advanced preparation of pasta.

RESPONSIBILITY:
Salad foodservice worker and Green Gourmet production personnel.

PROCEDURES:

1. **BEFORE PREPARATION:** Before preparation is started, the reach-in coolers in the Green Gourmet production area are to be checked to determine the quantity of product in stock. Prepared pasta from a previous day may be available.
2. **AMOUNT OF PASTA TO BE PREPARED:** More pasta can be prepared than needed for one day. The extra pasta can be stored in a reach-in cooler and used for a Green Gourmet delivery, take-out or cafe line entrees.
3. **LOCATION OF PASTA:** Raw pasta is stored in the dry storage room until ready for use. The pasta comes 20 pounds per box.
4. **COOKING PASTA:** After an order is received for Pesto Salad, the raw pasta is removed from the dry storage room. The steam-jacketed kettle (Please see policy FP-13 for a description of a steam-jacketed kettle) in the cooks' area is used for cooking pasta. The pasta is cooked according to the specifications on the Pesto Salad recipe (Please see Appendix I for a sample Pesto Salad recipe). When the cooking process is complete, the pasta is removed from the kettle and placed in a stainless steel counter pan (located along the south wall of the cafe dish room). The pasta is cooled under slowly running cold water in the Green Gourmet production area sink. The cooling process takes approximately three minutes.
5. **STORAGE OF COOKED PASTA:** Once cooled, the pasta is placed in a stainless steel counter pan, covered, dated and put into a reach-in cooler in the Green Gourmet production area until ready for use.

PREPARATION AND STORAGE OF PASTA
(Page 2 of 2)

ADDITIONAL COMMENTS:

1. Please see Appendix J for a description of counter pan sizes and capacities.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Preparation and storage of dressings. **FILE CODE:** FP-11

PURPOSE:

To establish methods for storage and advanced preparation of dressings.

RESPONSIBILITY:

Salad foodservice worker and Green Gourmet production personnel.

PROCEDURES:

1. **BEFORE PREPARATION:** Before preparation is started, the reach-in coolers in the Green Gourmet production area are to be checked to determine the quantity of product in stock. Prepared dressings from a previous day may be available.
2. **DRESSINGS THAT NEED TO BE PREPARED:** There are three Green Gourmet dressings that require preparation (1) Seafood Dip (2) Yogurt Dip and (3) Greek Dressing.
3. **AMOUNT OF DRESSING TO PREPARE:** The Seafood and Yogurt Dips are prepared in amounts specified on recipe instructions but can be prepared in large quantities (ten or more portions). The Greek dressing is prepared in the amount specified on package instructions.
4. **LOCATION OF INGREDIENTS:** Seafood Dip-Miracle Whip lite, chili sauce and lemon juice are located in the dry storage room. However, open containers are located in the Green Gourmet production area coolers and are used first. Yogurt Dip-Yogurt is located in the first walk-in cooler and honey is located in the dry storage room. Greek Dressing-Box of mix, corn oil, and vinegar are located in the dry storage room. Open containers of oil and vinegar are located in the Green Gourmet production area and are used first.
5. **DRESSING PREPARATION AND STORAGE:** The Seafood and Yogurt Dips are prepared according to recipe specifications (Please see Appendix I for sample recipes). The Greek dressing is prepared according to package instructions. Plastic cottage cheese containers (located along the east wall of the cafe dish room) are used when storing large quantities of dressing or dip. The containers are covered with a lid, dated, and stored in a reach-in cooler in the Green Gourmet production area.

DATE ADOPTED: _____ **DATE RECEIVED:** _____

POLICY NAME:
Cooking: convection oven.

FILE CODE: FP-12

PURPOSE:

To facilitate a better understanding of a convection oven and its uses.

RESPONSIBILITY:

Salad foodservice worker and Green Gourmet production personnel.

PROCEDURES:

1. **DEFINITION OF A CONVECTION OVEN:** A convection oven is an oven in which a fan circulates heated air through the oven for fast, even cooking.
2. **OPERATIONAL PROCEDURES:** A convection oven is operated in the same manner as a conventional oven. The oven is turned on with an on-off dial which lists cook, cool-down, cook and hold, and off. Set the dial to cook. The dial directly below the on-off dial is the temperature dial. For chicken breasts, the dial is set to 350°F/177°C. The third dial is the timer. The timer is usually set for ten minutes but can vary depending on the number of chicken breasts being cooked. The chicken is placed in the oven to cook (Please see policy FP-06 for information on the preparation of chicken breasts).
3. **USES:** The convection oven is used to cook marinated chicken breasts for Marinated Chicken Salad and plain chicken breasts for Chicken Salad Croissants.
4. **ADVANTAGES:** There are several advantages to the convection oven over a conventional oven. The following is a list of advantages:
 - * less cooking time, hence more efficient
 - * heats more evenly
 - * accurate cooking temperature
 - * excellent capacity
 - * savings in floor space, food shrinkage, and energy

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Cooking: steam-jacketed kettle.	FILE CODE: FP-13
PURPOSE: To facilitate a better understanding of a steam-jacketed kettle and its uses.	
RESPONSIBILITY: Salad foodservice worker and Green Gourmet production personnel.	

PROCEDURES:

1. **DEFINITION OF STEAM-JACKETED KETTLE:** A steam-jacketed kettle is a kettle which cooks food by steam located in the jacket of the kettle. The amount of steam used is controlled by a valve. Food is removed from the kettle by tilting the kettle forward.
2. **OPERATIONAL PROCEDURES:** Food is placed in the kettle as specified by the recipe. If water needs to be boiled, a sink is located directly next to the kettle and can be used for adding water as directed in the recipe and for clean-up. The steamer is turned on by a steam valve and the speed of cooking is controlled by the number of turns of the steam valve (more turns = faster cooking). Cooked food is poured into a stainless steel counter pan.
3. **CLEANING:** When the cooking process is completed and the kettle is empty, it is turned off and filled with water. The kettle is scrubbed with a stiff bristle brush (on platform under kettle), drained and wiped dry with a rag (located in dry storage room). Do not use steel wool, metal sponges, or scouring powders. These items leave minute scratches in the kettle surface which are ideal homes for bacteria.
3. **USES:** The steam-jacketed kettle is used to cook pasta and soup for Green Gourmet.
4. **ADVANTAGES:** There are many advantages to using a steam-jacketed kettle for Green Gourmet:
 - * transfers heat efficiently into foods
 - * much quicker than using a conventional stove top
 - * easy to operate
 - * easy to clean

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Cooking: high-pressure steamer.

FILE CODE: FP-14

PURPOSE:
To facilitate a better understanding of a high-pressure steamer and its uses.

RESPONSIBILITY:
Salad foodservice worker and Green Gourmet production personnel.

PROCEDURES:

1. **DEFINITION OF A HIGH-PRESSURE STEAMER:** A high-pressure steamer is an enclosed unit which cooks food under pressure by applying steam directly to food.
2. **OPERATIONAL DETAILS:** Food is placed in a stainless steel counter pan (half size or full size). The correct timing is determined according to recipe specifications. The timer is set and the door closed on the steamer compartment. The timer must be set accurately to prevent overcooking. The steamer will automatically shut-off at the end of the cooking cycle.
3. **USES:** The high-pressure steamer is used to cook seafood and eggs for Green Gourmet entrees.
4. **ADVANTAGES:** There are many advantages to using a high-pressure steamer for Green Gourmet:
 - * nutritional content of food is greater because of the short cooking period
 - * reduced labor both in preparation and clean-up
 - * cost efficient
 - * easy to operate

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Food assembly.

FILE CODE: FP-15
(Page 1 of 2)

PURPOSE:
To facilitate efficient assembly of Green Gourmet orders.

RESPONSIBILITY:
Salad foodservice worker, Green Gourmet production personnel, and foodservice supervisor.

PROCEDURES:

1. **DISTRIBUTION OF ORDERS:** After taking a Green Gourmet order, the catering receptionist distributes a copy to the catering supervisor, foodservice supervisor, and salad foodservice worker.
2. **PRODUCTION BOARD:** Green Gourmet orders are placed on the production board in the Green Gourmet production area. Names of days of the week (Sunday, Monday, Tuesday, Wednesday, Thursday, Friday and Saturday) are listed at the top of the production board. The board represents the current working week and contains Green Gourmet and catering orders for that week. Orders are attached below the day of the week which they are to be delivered. This allows production personnel to see what production needs to be completed that day.
3. **ORDERS PLACED IN ADVANCE:** A Green Gourmet order may be received in advance to the day of delivery or picked up. These orders are to be placed on the production board under the day they are to be delivered or picked up. This will help determine food and labor needs for other days of the week.
4. **BEFORE ASSEMBLY:** Before assembly is started, the reach-in coolers in the Green Gourmet production area are to be checked to determine the quantity of product in stock. Ingredients from a previous day may be available.
5. **ASSEMBLY STAFF:** The Green Gourmet foodservice supervisor is responsible for making sure there is someone available to handle assembly of Green Gourmet entrees. Generally, the salad foodservice worker is responsible for Green Gourmet assembly. However, in the event her work load is too great on a particular day, the foodservice supervisor is responsible for requesting additional Green Gourmet production personnel (M.S.U. students).

FOOD ASSEMBLY
(Page 2 of 2)

6. **ASSEMBLY:** Assembly is done in the Green Gourmet production area (Please see policy FP-04 for additional information on the Green Gourmet production area). For each Green Gourmet entree, assembly includes combining ingredients together according to recipe specifications (Please see Appendix I for sample Green Gourmet recipes). After work is complete at the recipe level, each entree is packaged in a Green Gourmet platter and covered with a platter lid. To ensure that the lid will stay on, one piece of scotch tape is adhered to each side of the container. Please see food production vocabulary in the beginning of this section for a complete definition of assembly.
7. **NUTRITIONAL ANALYSIS:** A nutritional analysis sticker is adhered to the lid of each Green Gourmet entree produced. Please see policy MP-05 for additional information on the Green Gourmet nutritional analysis.
8. **PACKING:** Packing for Green Gourmet delivery and take-out orders can be done prior to the day of delivery/pick-up. Packing for each order is placed in a bus tub (plastic container). Bus tubs are located in the cafe dish room along the north wall. Green Gourmet packing includes one of each of the following:
 - * Green Gourmet place mat/person
 - * Green Gourmet napkin/person
 - * Green Gourmet plasticware set/person
 - * wet-nap/person
 - * straw/beverage (if applicable)Please see food production vocabulary in the beginning of this section for a complete definition of packing.
9. **ASSEMBLY SUPERVISION:** The foodservice supervisor oversees the assembly of Green Gourmet entrees. The supervisor determines if additional help is needed to complete Green Gourmet orders on time.
10. **HANDLING COMPLETED ORDERS:** Green Gourmet orders are either delivered or picked up. Please see policies DT-05 through DT-08 for detailed information delivery procedures. Please see policy DT-09 for detailed information on take-out/pick-up procedures.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Cafe line.

FILE CODE: FP-16
(Page 1 of 2)

PURPOSE:

To describe steps necessary to set up and take down the Green Gourmet section in the M.S.U. Union Station Cafe.

RESPONSIBILITY:

Salad foodservice worker and Green Gourmet production personnel.

PROCEDURES:

1. **BEFORE PRODUCTION:** Before production begins, the reach-in coolers are checked to determine if leftover entrees are available from a previous day (the coolers are located in the cafe behind the Green Gourmet section).
2. **PRODUCTION:** Green Gourmet entrees are produced for sale in the M.S.U. Union Station Cafe. The entrees are prepared and assembled according to recipe specifications and, therefore, do not differ from those that are delivered or picked up. Each day, an average of 25 Green Gourmet entrees are produced for sale. The types of entrees produced is decided by the salad foodservice worker and is based on food frequency results (Please see policy MP-07 for additional information on food frequencies). Production for the cafe line is completed before 10:30 am to allow for set up time.
3. **PACKAGING:** For deliveries and pick-ups, Green Gourmet entrees are packaged in disposal styrofoam containers with plastic lids. For the cafe line, entrees are displayed on a glass plate (located along east wall of cafe dish room) and covered with clear plastic wrap. Additionally, Green Gourmet cafe customers do not receive the Green Gourmet place mat, napkin, plasticware or wet-nap. Instead, they use trays, napkins and silverware provided by the cafe.
4. **NUTRITIONAL ANALYSIS:** A nutritional analysis sticker is attached to the top of the plastic wrap on each Green Gourmet entree produced. Please see policy MP-05 for additional information on the Green Gourmet nutritional analysis.
5. **COLORLED-CODED LABELING SYSTEM:** After a Green Gourmet entree is produced for sale on the cafe line, it is coded with a colored dot (located in the Green Gourmet production area). The dot represents the day the entree was made. The following is a list of days of the week and their relative color coded dot:

CAFE LINE
(Page 2 of 2)

- * Monday-blue dot
- * Tuesday-green dot
- * Wednesday-orange dot
- * Thursday-red dot
- * Friday-yellow dot

The system was developed to ensure proper rotation and disposal of leftover entrees. Entrees are on a two day rotation cycle. For example, if 25 entrees are produced on Monday and five are leftover, they would be put on display Tuesday (leftover entrees are to be sold before fresh ones). However, if there are still three entrees leftover from Monday on Wednesday, they would be thrown away. All Green Gourmet entrees are thrown away if they are not sold within two days.

6. **DISPLAY-ENTREES:** Green Gourmet entrees are displayed in the Green Gourmet section located along the west side of the cafe. The entrees are placed in a cooling unit (similar to those used for a salad bar) that has been filled with ice. Entrees are grouped together according to type. Green Gourmet production personnel are not responsible for filling the cooling unit with ice. However, as a reference, the ice machine is located next to the dry storage room.
7. **DISPLAY-PRICES:** Price cards have been developed for each Green Gourmet entree. Each card contains the entree name and price. The price cards are placed on the Green Gourmet cooling unit behind the corresponding entree(s).
8. **REMOVAL AND STORAGE:** After the M.S.U. Union Station Cafe is closed (1:30 pm), the remaining Green Gourmet entrees are removed from the ice. The entrees are placed in the reach-in coolers behind the Green Gourmet section in the cafe.

DATE ADOPTED: _____ **DATE REVISED:** _____

SECTION 5.**FOOD SAFETY AND SANITATION****POLICY NAME****FILE CODE**

Food Contamination.....	FS-01
Cleaning of Production Area.....	FS-02
Disposal of Trash.....	FS-03
Personal Hygiene.....	FS-04
Food Handling.....	FS-05
Cleaning of Equipment, Dishes, and Pans.....	FS-06
Food Safety and Sanitation Inspection.....	FS-07

POLICY NAME:
Food contamination.

FILE CODE: FS-01
(Page 1 of 2)

PURPOSE:

To describe the major causes of food contamination and methods of prevention.

RESPONSIBILITY:

Salad foodservice worker and Green Gourmet production and delivery personnel.

PROCEDURES:

1. **GROWTH OF BACTERIA:** Growth of bacteria is supported by food because it provides nutrients, moisture, warmth, and air. When these four conditions are present, bacteria reproduce rapidly. Bacteria can also spread from one food to another. The following is a list of ways that bacteria are spread to food:

- * Dirty equipment (walls, floors, pans, dishes, utensils)
- * Human hand
- * Sneezing, coughing or hair
- * Flies, roaches, rats, and mice
- * Sewage and contaminated water
- * Soil, dust, and air

Eliminating the conditions for growth and the means by which bacteria are spread, are the best ways to control bacteria and the food poisoning they cause.

2. **METHODS OF PREVENTION:** Green Gourmet employees are to keep foods hot or cold to prevent or decrease the amount of bacterial growth in food (MEHA, 1989):

* **Heat:**

- cook to an internal temperature of 140°F/60°C or above (poultry = 165°F/74°C)
- kills most disease producing organisms
- the following equipment can be used to heat food:
 - *convection oven
 - *steam-jacketed kettle
 - *high-pressure steamer

* **Reheat:**

- reheat to an internal temperature of 165°F/74°C or above
- kills most disease producing organisms
- the following equipment can be used to reheat food:
 - *convection oven
 - *steam-jacketed kettle

FOOD CONTAMINATION
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- *high-pressure steamer
- *microwave

* Cooling:

- cool to an internal temperature of 45°F/7°C or below
(in container with depth $\leq$ 3")
- retards bacterial growth
- the following equipment can be used to cool food:
 - *freezer
 - *walk-in refrigerator
 - *reach-in cooler
 - *cold cart (transportable)

3. The following is a list of bacteria that cause most of the known bacterial foodborne illness in North America: Clostridium botulinum, Clostridium perfringens, Staphylococcus aureus, Salmonella, Campylobacter jejuni, enteropathogenic Escherichia coli, Shigella, Vibrio, Bacillus cereus, and Listeria (Institute of Food Technologists' Expert Panel on Food Safety & Nutrition, 1988).

DATE ADOPTED: _____ DATE REVISED: _____

POLICY NAME:
Cleaning of production area.

FILE CODE: FS-02

PURPOSE:
To describe the procedures used to clean the Green Gourmet production area.

RESPONSIBILITY:
Salad foodservice worker and Green Gourmet production personnel.

PROCEDURES:

1. **CLEAN-AS-YOU-GO:** A clean-as-you-go method is used during Green Gourmet production. This method includes cleaning production counters, bringing dirty dishes and pans to the dish room and removing trash. This method helps keep the production area clean and organized which allows for more efficient food production.
2. **PRODUCTION COUNTERS:** Clean rags, general purpose detergent, sanitizer, and warm water are used to clean the production area counters. The rags are located in the dry storage room and detergent, sanitizer and water are located in the Green Gourmet production area.
3. **DIRTY DISHES AND PANS:** Dirty dishes (including utensils) and pans are brought to the cafe dish room after they are no longer needed. These items are stacked in the dish room and will be cleaned by a automatic dish washing machine which uses hot water to sanitize.
4. **TRASH:** Trash is put in its appropriate place during production. Please see policy FS-03 for complete definition of trash and additional information on disposal of trash.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Disposal of trash.	FILE CODE: FS-03
PURPOSE: To describe the procedures used to sort and dispose of trash.	
RESPONSIBILITY: Salad foodservice worker and Green Gourmet production personnel.	

PROCEDURES:

1. **DEFINITION OF TRASH:** Trash is defined as both non-food and food items that can no longer be used and must be thrown away. Non-food items include cardboard boxes, cans (ie. #10 can), and wooden crates. Food items include scrap ingredients such as seeds, rinds, stems, and leftover entrees past the two day freshness period.
2. **NON-FOOD TRASH:** Non-food trash such as, cardboard boxes, #10 cans, and wooden crates are put into the trash bins located outside of the cafe dish room (along east wall). The trash bins are emptied by M.S.U. Union Station Cafe employees.
3. **FOOD TRASH:** Food trash from Green Gourmet production is disposed of in garbage cans in the Green Gourmet production area. All trash is removed at the end of the day and garbage cans are lined with a clean plastic garbage bag (by M.S.U. Union Station Cafe employees).

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Personal hygiene.

FILE CODE: FS-04

PURPOSE:

To define the standards of cleanliness expected of each Green Gourmet employee.

RESPONSIBILITY:

All Green Gourmet personnel, especially those associated with food production and distribution.

PROCEDURES:

1. **HANDS:** Hands are washed with warm water and soap and dried with a disposable paper towel (one use) before and after food production, after blowing nose or sneezing, after handling dirty dishes/pans or rags, after using the toilet, and after taking a break. Hands are washed in the Green Gourmet production area sink or the cafe rest room sink.
2. **HAIR:** During food production, hair is restrained with a hair net or hat. Each of these constraints are obtained from the foodservice supervisor.
3. **UNIFORM:** All Green Gourmet production staff must wear an apron during food production. A clean apron is worn each day (aprons are located in the dry storage room). Dirty hands are washed, not wiped on the apron. After production is complete, aprons are disposed of in the plastic container outside of the foodservice supervisor's office. Aprons are sent to M.S.U. Laundry to be cleaned. All employees must wear socks or stockings and hard shoes or boots. Canvas shoes, sneakers and sandals are not permitted for safety reasons.
4. **JEWELRY AND NAIL POLISH:** Jewelry (rings, bracelets, watches, earrings, etc.) and nail polish are not allowed to be worn during food production.
5. **ILLNESS:** Employees who report to work with a temperature, severe cough, or other visible signs of illness are sent home. Employees with cuts, sores, boils, large pimples or other skin infections are only allowed to work in food production and service areas if the infection is covered.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Food handling.	FILE CODE: FS-05
PURPOSE: To describe the methods of handling food in the production area.	
RESPONSIBILITY: Salad foodservice worker and Green Gourmet production personnel.	

PROCEDURES:

1. **REMOVING FOODS FROM STORAGE:** Food is removed from freezers and refrigerators in quantities that are immediately needed for preparation. Food must not be outside of the refrigerator or freezer areas for more than one hour.
2. **WASHING FOOD:** All fruits and vegetables are washed in cold water in the Green Gourmet production area sink before use (Please see policy FP-09 for additional information on salad ingredients).
3. **GLOVES:** Plastic gloves are worn by the salad foodservice worker and Green Gourmet production personnel during production. Gloves are located in the Green Gourmet production area. Clean gloves are worn when working with raw ingredients and a clean pair are put on after working with raw ingredients. Additionally, gloves that are torn or punctured during production are replaced with a new pair.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Cleaning of equipment, dishes, and pans.	FILE CODE: FS-06
PURPOSE: To describe the procedures used to clean equipment, dishes, and pans.	
RESPONSIBILITY: Salad foodservice worker and Green Gourmet production personnel.	

PROCEDURES:

1. **EQUIPMENT:** Only a few pieces of equipment are used for Green Gourmet production; Hobart mixer, slicer, scales, knives, sinks, and production tables. After use, each piece of equipment is cleaned with general purpose detergent, sanitizer, warm water, and a cloth or brush. All of the above equipment is cleaned in the production area.
2. **DISHES AND PANS:** Dirty dishes (including utensils) and pans are stacked in the cafe dish room. These items are cleaned by a dish washing machine which sanitizes with hot water. The dish machine is run by an M.S.U. Union Station Cafe employee. Clean dishes and pans are returned to their storage locations in the cafe dish room.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Food safety and sanitation inspection.	FILE CODE: FS-07
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PURPOSE: To describe the procedures used to prepare for a food safety/sanitation inspection.
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RESPONSIBILITY: All Green Gourmet personnel.
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PROCEDURES:

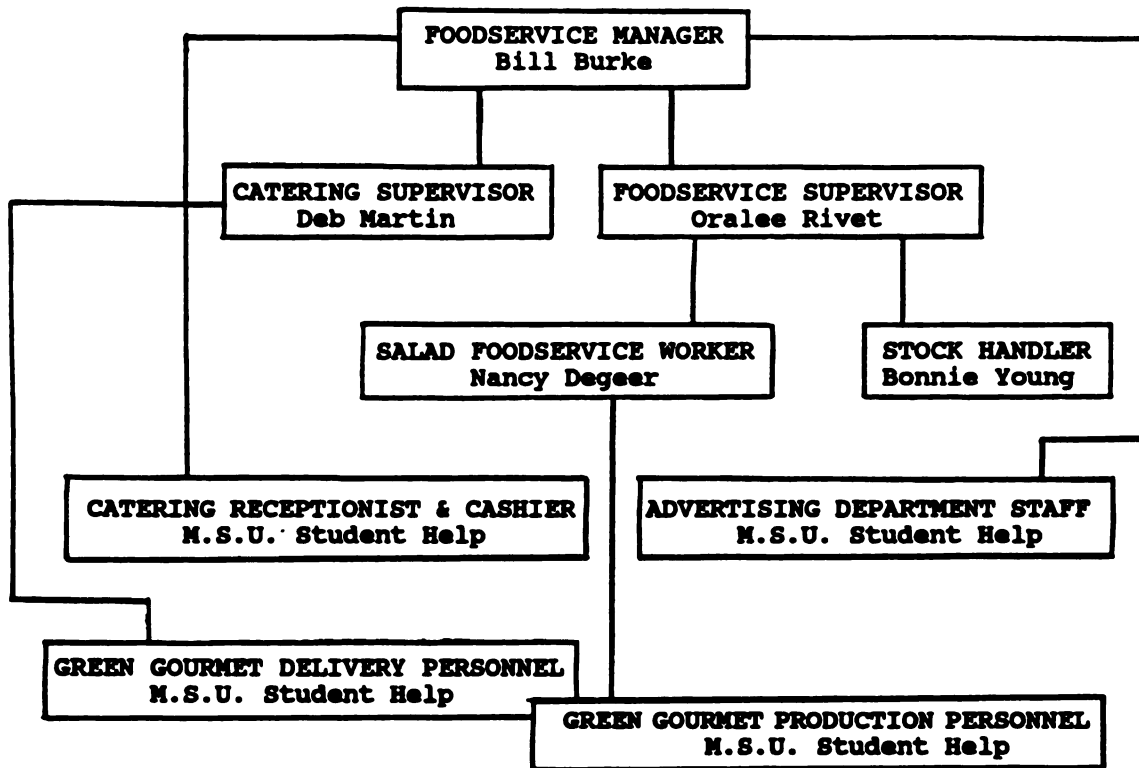
1. **CLEANING:** All Green Gourmet personnel are responsible for preparing the M.S.U. Union Station Cafe for a food safety and sanitation inspection. Work responsibilities related to the food safety and sanitation inspection are determined by the foodservice supervisor.
2. **INSPECTION:** A food safety and sanitation inspection is conducted by an M.S.U. sanitarian once every six months. Please see Appendix K for a sample check list used during an inspection. A written narrative is also included with each inspection. The narrative includes a statement of each violation, means of correction, reasons for correction, and dates.

DATE ADOPTED: _____ **DATE REVISED:** _____

SECTION 6.**STAFFING**

<u>POLICY NAME</u>	<u>FILE CODE</u>
Foodservice Manager.....	ST-01
Foodservice Supervisor.....	ST-02
Catering Supervisor.....	ST-03
Stock Handler.....	ST-04
Salad Foodservice Worker.....	ST-05
Catering Receptionist.....	ST-06
Cashier on Duty.....	ST-07
M.S.U. Union Advertising Staff.....	ST-08
Green Gourmet Delivery Personnel.....	ST-09
Green Gourmet Production Personnel.....	ST-10
Green Gourmet Advisory Committee Members.....	ST-11
All Green Gourmet Personnel.....	ST-12

**TABLE OF ORGANISATION
1991**



POLICY NAME: Foodservice manager.	FILE CODE: ST-01
PURPOSE: To describe job responsibilities directly related to Green Gourmet.	
RESPONSIBILITY: Foodservice manager.	

PROCEDURES:

1. **BASIC FUNCTIONS:** The basic functions of the foodservice manager are to manage the financial, personnel, and operational activities of Green Gourmet. The amount of time dedicated to Green Gourmet varies each day.
2. **JOB RESPONSIBILITIES:** Job responsibilities are described in Green Gourmet policies. The following is a list of policies for which the foodservice manager is responsible. Please refer back to the listed policies for more detailed information on job responsibilities.
 - * Green Gourmet menu revisions.....(MP-02)
 - * Green Gourmet logo design.....(MP-03)
 - * Menu pricing.....(MP-04)
 - * Menu distribution.....(MP-06)
 - * Food frequencies.....(MP-07)
 - * Recipe development and testing...(FP-02)
 - * Income and expense records.....(CC-01)
 - * Budget report.....(CC-02)

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Foodservice supervisor.	FILE CODE: ST-02
PURPOSE: To describe job responsibilities directly related to Green Gourmet.	
RESPONSIBILITY: Foodservice supervisor.	

PROCEDURES:

1. **BASIC FUNCTIONS:** The basic functions of the foodservice supervisor are to supervise and coordinate the work of the salad foodservice worker and Green Gourmet production personnel. The amount of time dedicated to Green Gourmet is 3½ each day.
2. **JOB RESPONSIBILITIES:** Job responsibilities are described in Green Gourmet policies. The following is a list of policies for which the foodservice supervisor is responsible. Please refer back to the listed policies for more detailed information on job responsibilities.
 - * Menu pricing.....(MP-04)
 - * Nutritional analysis.....(MP-05)
 - * Menu distribution.....(MP-06)
 - * Emergency purchases.....(PS-03)
 - * Recipe development and testing...(FP-02)
 - * Green Gourmet recipe notebook....(FP-03)
 - * Food assembly.....(FP-15)

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Catering supervisor.	FILE CODE: ST-03
PURPOSE: To describe job responsibilities directly related to Green Gourmet.	
RESPONSIBILITY: Catering supervisor.	

PROCEDURES:

1. **BASIC FUNCTIONS:** The basic functions of the catering supervisor are to supervise Green Gourmet delivery personnel and coordinate Green Gourmet deliveries. The amount of time dedicated to Green Gourmet is 4½ each day.
2. **JOB RESPONSIBILITIES:** Job responsibilities are described in Green Gourmet policies. The following is a list of policies for which the catering supervisor is responsible. Please refer back to the listed policies for more detailed information on job responsibilities.
 - * Coordination of deliveries.....(DT-05)
 - * Food purchases for Green Gourmet.....(PS-01)

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Stock handler.

FILE CODE: ST-04

PURPOSE:
To describe job responsibilities directly related to
Green Gourmet.

RESPONSIBILITY:
Stock handler.

PROCEDURES:

1. **BASIC FUNCTIONS:** The basic functions of the stock handler are to purchase and maintain food and non-food stock for Green Gourmet. The amount of time dedicated to Green Gourmet is 5% each week.
2. **JOB RESPONSIBILITIES:** Job responsibilities are described in Green Gourmet policies. The following is a list of policies for which the stock handler is responsible. Please refer back to the listed policies for more detailed information on job responsibilities.
 - * Food purchases for Green Gourmet.....(PS-01)
 - * Food supply.....(PS-02)
 - * Refrigerator and freezer temperatures...(PS-04)
 - * Additional storage space.....(PS-06)

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Salad foodservice worker.

FILE CODE: ST-05

PURPOSE:
To describe job responsibilities directly related to Green Gourmet.

RESPONSIBILITY:
Salad foodservice worker.

PROCEDURES:

1. **BASIC FUNCTIONS:** The basic functions of the salad foodservice worker are to prepare Green Gourmet orders for distribution to campus locations and to supervise the work of Green Gourmet production personnel. The amount of time dedicated to Green Gourmet is 12% each day.
2. **JOB RESPONSIBILITIES:** Job responsibilities are described in Green Gourmet policies. The following is a list of policies for which the salad foodservice worker is responsible. Please refer back to the listed policies for more detailed information on job responsibilities.

- * Emergency purchases.....(PS-03)
- * Storage of leftovers.....(PS-05)
- * Additional storage space.....(PS-06)
- * Standardized recipes for Green Gourmet.....(FP-01)
- * Green Gourmet production area.....(FP-04)
- * Preparation and storage.....(FP-05)
- * Preparation and storage of chicken breasts.....(FP-06)
- * Preparation and storage of seafood.....(FP-07)
- * Preparation and storage of eggs.....(FP-08)
- * Preparation and storage of salad ingredients... (FP-09)
- * Preparation and storage of pasta.....(FP-10)
- * Preparation and storage of dressings.....(FP-11)
- * Cooking: convection ovens.....(FP-12)
- * Cooking: steam-jacketed kettle.....(FP-13)
- * Cooking: high-pressure steamer.....(FP-14)
- * Food assembly.....(FP-15)
- * Cafe line.....(FP-16)
- * Food contamination.....(FS-01)
- * Cleaning of production area.....(FS-02)
- * Disposal of trash.....(FS-03)
- * Food handling.....(FS-05)
- * Cleaning of equipment, dishes, and pans.....(FS-06)

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Catering receptionist.

FILE CODE: ST-06

PURPOSE:
To describe job responsibilities directly related to Green Gourmet.

RESPONSIBILITY:
Catering receptionist.

PROCEDURES:

1. **BASIC FUNCTIONS:** The basic functions of the catering receptionist are to receive, record, distribute, and return Green Gourmet orders. The amount of time dedicated to Green Gourmet is 6% each day.
2. **JOB RESPONSIBILITIES:** Job responsibilities are described in Green Gourmet policies. The following is a list of policies for which the catering receptionist is responsible. Please refer back to the listed policies for more detailed information on job responsibilities.
 - * Food frequencies.....(MP-07)
 - * Phone ordering.....(DT-02)
 - * Green Gourmet bank.....(DT-03)
 - * Interdepartmental transfer (IDT).....(DT-04)
 - * Take-out/pick-up purchases.....(DT-09)
 - * Green Gourmet recipe notebook.....(FP-03)

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Cashier on duty.	FILE CODE: ST-07
PURPOSE: To describe job responsibilities directly related to Green Gourmet.	
RESPONSIBILITY: Cashier on duty.	

PROCEDURES:

1. **BASIC FUNCTIONS:** The basic functions of the cashier on duty are to perform tasks required in the collection of funds for Green Gourmet entrees sold in the M.S.U. Union Station Cafe. The amount of time dedicated to Green Gourmet varies each day.
2. **JOB RESPONSIBILITIES:** Job responsibilities are described in Green Gourmet policies. The following is a policy for which the cashier on duty is responsible. Please refer back to the listed policy for more detailed information on job responsibilities.

* Cafe purchases...(DT-10)

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: M.S.U. Union Advertising staff.	FILE CODE: ST-08
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PURPOSE: To describe job responsibilities directly related to Green Gourmet.
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RESPONSIBILITY: M.S.U. Union Advertising staff.

PROCEDURES:

1. **BASIC FUNCTIONS:** The basic functions of the M.S.U. Union Advertising staff are to develop and type-set menus, coupons, fliers, and any Green Gourmet informational materials. The amount of time dedicated to Green Gourmet varies each month.
2. **JOB RESPONSIBILITIES:** Job responsibilities are described in Green Gourmet policies. The following is a list of policies for which the M.S.U. Union Advertising staff are responsible. Please refer back to the listed policies for more detailed information on job responsibilities.
 - * Green Gourmet menu revisions...(MP-02)
 - * Green Gourmet logo design.....(MP-03)

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Green Gourmet delivery personnel.	FILE CODE: ST-09
PURPOSE: To describe job responsibilities directly related to Green Gourmet.	
RESPONSIBILITY: Green Gourmet delivery personnel.	

PROCEDURES:

1. **BASIC FUNCTIONS:** The basic functions of the Green Gourmet delivery personnel are to coordinate and deliver Green Gourmet orders to campus locations. The amount of time dedicated to Green Gourmet is 12% each day.
2. **JOB RESPONSIBILITIES:** Job responsibilities are described in Green Gourmet policies. The following is a list of policies for which the delivery personnel are responsible. Please refer back to the listed policies for more detailed information on job responsibilities.
 - * Green Gourmet bank.....(DT-03)
 - * Interdepartmental transfer (IDT).....(DT-04)
 - * Coordination of deliveries.....(DT-05)
 - * Delivery preparation.....(DT-06)
 - * Transportation for deliveries.....(DT-07)
 - * Delivery sites.....(DT-08)
 - * Take-out/pick-up purchases.....(DT-09)
 - * Food contamination.....(FS-01)

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Green Gourmet production personnel.

FILE CODE: ST-10

PURPOSE:

To describe job responsibilities directly related to Green Gourmet.

RESPONSIBILITY:

Green Gourmet production personnel.

PROCEDURES:

1. **BASIC FUNCTIONS:** The basic functions of the Green Gourmet production personnel are to prepare and pack Green Gourmet orders for distribution to campus locations. The amount of time dedicated to Green Gourmet is 12% each day.
2. **JOB RESPONSIBILITIES:** Job responsibilities are described in Green Gourmet policies. The following is a list of policies for which the production personnel are responsible. Please refer back to the listed policies for more detailed information on job responsibilities.

- * Storage of leftovers.....(PS-05)
- * Standardized recipes for Green Gourmet.....(FP-01)
- * Green Gourmet production area.....(FP-04)
- * Preparation and storage.....(FP-05)
- * Preparation and storage of chicken breasts.....(FP-06)
- * Preparation and storage of seafood.....(FP-07)
- * Preparation and storage of eggs.....(FP-08)
- * Preparation and storage of salad ingredients... (FP-09)
- * Preparation and storage of pasta.....(FP-10)
- * Preparation and storage of dressings.....(FP-11)
- * Cooking: convection ovens.....(FP-12)
- * Cooking: steam-jacketed kettle.....(FP-13)
- * Cooking: high-pressure steamer.....(FP-14)
- * Food assembly.....(FP-15)
- * Cafe line.....(FP-16)
- * Food contamination.....(FS-01)
- * Cleaning of production area.....(FS-02)
- * Disposal of trash.....(FS-03)
- * Food handling.....(FS-05)
- * Cleaning of equipment, dishes, and pans.....(FS-06)

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: Green Gourmet Advisory Committee members.	FILE CODE: ST-11
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PURPOSE: To describe job responsibilities directly related to Green Gourmet.
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RESPONSIBILITY: Green Gourmet Advisory Committee members.

PROCEDURES:

1. **BASIC FUNCTIONS:** The basic functions of the Green Gourmet Advisory Committee are to provide ideas and recommendations for the betterment of Green Gourmet. The amount of time dedicated to Green Gourmet varies each month.

2. **JOB RESPONSIBILITIES:** Job responsibilities are described in Green Gourmet policies. The following is a list of policies for which the Advisory Committee members are responsible. Please refer back to the listed policies for more detailed information on job responsibilities.
 - * Green Gourmet menu revisions...(MP-02)
 - * Food frequencies.....(MP-07)

3. **MEMBERS:** The following is a list of members on the Green Gourmet Advisory Committee and their position at M.S.U.:
 - * Jim Sheppard, Union and Bookstore Manager, M.S.U. Union
 - * Bill Burke, foodservice manager, M.S.U. Union Catering (Committee Chair, 1988-91)
 - * Carol Sawyer, Assoc. Professor, Dept. of Food Science & Human Nutrition
 - * Margaret Holmes-Rovner, Assoc. Professor, Dept. of Medicine
 - * Betty Wernette, Sanitarian, Dept. of Public Safety
 - * Deborah Grischke, M.S. Student, Dept. of Food Science & Human Nutrition (Recording Secretary, 1988-91)

Members meet once each semester, or as needed (determined by Committee Chair-Bill Burke, 1988-91).

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME: All Green Gourmet personnel.	FILE CODE: ST-12
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PURPOSE: To describe job responsibilities directly related to Green Gourmet.	
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RESPONSIBILITY: All Green Gourmet personnel.	
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PROCEDURES:

1. **BASIC FUNCTIONS:** The basic functions of all Green Gourmet personnel are to adhere to job responsibilities, be familiar with all aspects of Green Gourmet, and provide input for the betterment of Green Gourmet.
2. **JOB RESPONSIBILITIES:** Job responsibilities are described in Green Gourmet policies. The following is a list of policies for which all Green Gourmet personnel are responsible. Please refer back to the listed policies for more detailed information on job responsibilities.
 - * Menu description.....(MP-01)
 - * Operational modes of the Green Gourmet lunch service.....(DT-01)
 - * Personal hygiene.....(FS-04)
 - * Food safety and sanitation inspection.....(FS-07)

DATE ADOPTED: _____ **DATE REVISED:** _____

SECTION 7.**COST CONTROL AND ACCOUNTABILITY**

POLICY NAME**FILE CODE**

Income and Expense Records.....CC-01
Budget Report.....CC-02

POLICY NAME: Income and expense records.	FILE CODE: CC-01
PURPOSE: To describe the methods of controlling income and expenses for Green Gourmet.	
RESPONSIBILITY: Foodservice manager.	

PROCEDURES:

1. **GREEN GOURMET AS AN EXTENSION OF CATERING:** Green Gourmet is merely an extension of M.S.U. Union Catering. Green Gourmet is not budgeted for separately, but rather all income and expenses related to Green Gourmet are part of the M.S.U. Union Catering budget.
2. **CAFE LINE SALES:** The M.S.U. Union Station Cafe is a facet of M.S.U. Union Catering. All Green Gourmet entrees sold in the Union Station Cafe are included as part cafe sales. Each day, cafe register receipts and monies received are submitted to the M.S.U. Union Business Office and recorded as part of catering sales.
3. **DELIVERY/TAKE-OUT SALES:** All Green Gourmet orders sold as delivery or take-out are included as part of M.S.U. Union Catering sales. Each day, Green Gourmet order form copies and monies received are submitted to the M.S.U. Union Business Office and recorded as catering sales.

DATE ADOPTED: _____ **DATE REVISED:** _____

POLICY NAME:
Budget report.

FILE CODE: CC-02

PURPOSE:
To describe the initial Green Gourmet budget report.

RESPONSIBILITY:
Foodservice manager.

PROCEDURES:

1. **INITIAL GREEN GOURMET BUDGET REPORT:** The initial Green Gourmet budget report includes all income and expenses related to Green Gourmet operations. A budget report is ordinarily done for a one year period. However, for Green Gourmet a five month budget report was done during the initial test marketing stage (spring, 1989). The results of the budget report indicated a positive net revenue for the first five months of operation (Please see Appendix L for a sample Green Gourmet budget report). Based on the results of the initial budget report, Green Gourmet became part of M.S.U. Union Catering. A yearly budget report is not done specifically for Green Gourmet but rather for Union Catering as a whole.
2. **FORECAST FOR GREEN GOURMET:** Included in the initial Green Gourmet budget report were forecasted amounts for 1989-90 (Please see Appendix L for a sample of forecasted amounts for Green Gourmet). The forecast information was used to analyze the actual financial status of Green Gourmet from August 1989 through June 1990. This was the only forecast information done for Green Gourmet.

DATE ADOPTED: _____ **DATE REVISED:** _____

SECTION 8.

APPENDICES

Appendix A:	Green Gourmet Menu
Appendix B:	Sample Survey
Appendix C:	Green Gourmet Nutritional Analysis
Appendix D:	Food Frequency Chart
Appendix E:	Green Gourmet Order Form
Appendix F:	Bank Release Form
Appendix G:	IDT Form
Appendix H:	Delivery Schedule
Appendix I:	Green Gourmet Recipes
Appendix J:	Counter Pan Sizes and Capacities
Appendix K:	Sanitation Inspection Report
Appendix L:	Green Gourmet Budget Report



MSU UNION

GREEN GOURMET



355-6653

For your convenience, the MSU Union provides an innovative way to enjoy lunch during your busy day. The Green Gourmet will prepare and deliver a delicious lunch right to your office! The menu has been uniquely designed with a selection of healthy salads, sandwiches, soups, and much more.

SALADS



Louis Seafood Salad

The best catches of fish, crab, and shrimp are found on a fresh bed of lettuce and served with zesty seafood dressing.....\$4.50

Greek Salad

A delicate combination of fresh veggies, feta cheese, and black olives. Topped with special dressing.....\$3.60

Marinaded Chicken Salad

Tender strips of marinated chicken grilled to perfection and served on a bed of chopped lettuce with fresh veggies and toasted almonds.....\$4.50

Vegetable Medley Salad

Crisp chopped lettuce piled high with fresh veggies, eggs, and cheese. Choice of dressing.....\$4.00

Pesto Salad

Tender pasta blended with pesto and lisc dressing and topped with veggies, olives, and eggs.....\$3.50

Fruit Platter

An array of fresh melon, strawberries, grapes, and pineapple. Served with our yogurt dip and crackers.....\$4.50

SANDWICHES



Gourmet Deli Sandwich

A sandwich piled high with meat and cheese of your choice and served on the bread of your choice. Garnished with crisp lettuce and tomato slices.....\$4.25
Meat: Turkey, Ham, or Roast Beef Cheese: Cheddar or Swiss
Bread: Lite White, Lite Wheat, or Roman Meal Seven Grain

Vegetarian Sandwich

Fresh array of vegetables nestled between two kinds of cheeses and fresh pita bread. Served with dressing.....\$3.25

Combination Plate

1/2 of a delicious Deli Sandwich with a small array of fresh fruit.....\$4.50

* Chicken Salad Croissant

Chunky chicken salad served on a freshly baked croissant and garnished with cucumber slices and tomato wedges.....\$4.50

* Tuna Salad Croissant

White tuna salad served on a freshly baked croissant and garnished with cucumber slices and tomato wedges.....\$4.50

* Croissant may be substituted with pita bread or a bread selection from the deli sandwich.

ALA CARTE



Cup of soup (microwave item).....\$1.25
Jumbo Cookie.....\$0.50

Apple.....\$0.50
Orange.....\$0.50

Dinner Roll.....\$0.50
Oat Bran Muffin.....\$0.65

BEVERAGES



100% Orange Juice.....\$0.00
100% Grapefruit Juice.....\$0.00
100% Apple Juice.....\$0.00
100% Grape Juice.....\$0.00

2% Milk.....\$0.50
Skim Milk.....\$0.50
Whole Milk.....\$0.50

Coke.....\$0.00
Diet Coke.....\$0.00
Sprite.....\$0.00
Diet Sprite.....\$0.00

DELIVERY INFORMATION

All lunches need to be put on a university account number or paid for in cash at the time of the delivery. Green Gourmet is only available for lunch Monday - Friday. Orders may be placed as far in advance as you like, between 8am - 5pm, Monday through Friday. We will accept orders until 9:30am for the same day. There is a \$0.75 delivery charge per entree. Prices subject to change without notice.

N = 137

April 1, 1989
to
Nov. 30, 1989

HNF 441

Special Project

Green Gourmet

Service Evaluations

Jennifer Benzie

1073132

The purpose of this project was to compile the responses given by customers of Green Gourmet on service evaluation forms. All numbers are the percent of customers who responded similarly. Comments which follow certain questions are in no particular order.

1. When placing orders:

	Courtesy	Efficiency	Timeliness
Excellent	61%	55%	56%
Good	16	22	26
Average	2	0	1
Fair	1	1	1
Poor	0	0	0
N/A	20	22	31

2. Did the food arrive on time:

Yes	68%
No	4
Early	7
Late	15
N/A	6

3. Was the order correct:

Yes	85%
No	8
N/A	7

#3 cont. (things said to be wrong with orders)

- crackers were missing
- milk was missing
- dip missing
- silverware missing
- dressing missing
- wrong bread
- wrong or different muffin

4. Were the delivery people courteous:

Yes	88%
No	0
N/A	12

5. Appearance of food:

Excellent	71%
Good	17
Average	3
Fair	0
Poor	1
N/A	8

6. Quality of food:

Excellent	59%
Good	32
Average	5
Fair	1
Poor	1
N/A	2

7. Was nutritional information helpful:

Yes	82%
No	8
Not found	5
N/A	5

8. Was there anything that could make the experience better:

Yes	26%
No	74

#8 cont. (comments of those answering yes)

- tell of possible delivery delay
- need nutritional analysis of bran muffin
- need a fork
- want less olives and peppers
- want empty cups for drinks
- larger portions
- crackers or bread with salads
- dill pickles instead of sweet
- have it cost less
- be on time
- offer low-cal dressings
- waive delivery charge when late
- keep wet items away from bread
- use a combination of different lettuces
- return to old muffins
- more napkins
- more dressing for veggie sandwich
- make pop available
- trim roast beef
- delivery charge too expensive

9. Overall rating of experience:

Positive	82%
Negative	3
N/A	15

10. Other comments made:

- need mints
- don't need anymore menus
- extra dressing is waste
- add .75 delivery charge into food prices
- cut down on fat content
- coupons?
- bran muffin " best ever "
- muffin is dry
- oat bran muffin "outstanding"
- turkey dry
- Why 2 kinds of dressings
- should have biodegradable containers, or reuse them
- placemats and napkins nice
- placemats and wipes not necessary
- seems to be a lack of communication and organization
- should reduce delivery charge for groups
- be on time

Comments made most often on the evaluation forms were in regards to the timing of orders and the cost of delivery.

Most food that was late was within a 15 minute period but customers said they were not made aware of the possible time variance when ordering. Several people said their food was early, up to 1/2 hr. Few were displeased with that.

A significant number of persons commented on the delivery charge. All thought it was too expensive. Some suggested reducing the charge for multiple orders. Others suggested adding the charge into the price of the food.

Despite these comments the vast majority were positive. It is felt that most people who responded were appreciative of the service of Green Gourmet.

(Appendix C)

NUTRITIONAL INFORMATION

For your convenience, a nutritional analysis has been prepared so you can evaluate the amount of calories, fat, protein, carbohydrates, and calories from fat contained in your lunch.

SALADS	 Louis Seafood Salad w/o dip Total Calories = 222 Total Protein = 29g Total Fat = 6g Total Carbohydrates = 13g Calories from Fat = 24.32%	 Marinated Chicken w/o dressing Total Calories = 293 Total Protein = 44g Total Fat = 9g Total Carbohydrates = 9g Calories from Fat = 27.64%	Greek Salad Total Calories = 180 Total Protein = 5g Total Fat = 12g Total Carbohydrates = 13g
	Seafood Dip Total Calories = 164 Total Protein = 1g Total Fat = 8g Total Carbohydrates = 22g	Marinated Chicken Dressing Total Calories = 261 Total Protein = 0g Total Fat = 25g Total Carbohydrates = 9g	Greek Dressing Total Calories = 201 Total Protein = 0g Total Fat = 21g Total Carbohydrates = 3g
	 Vegetable Medley Salad w/o dressing Total Calories = 173 Total Protein = 11g Total Fat = 5g Total Carbohydrates = 21g Calories from Fat = 26.01%	 Fruit Platter w/ dip and crackers Total Calories = 395 Total Protein = 12g Total Fat = 3g Total Carbohydrates = 80g Calories from Fat = 6.83%	Pesto Salad Total Calories = 461 Total Protein = 15g Total Fat = 25g Total Carbohydrates = 44g

SANDWICHES	 Vegetarian Sandwich w/o dressing Total Calories = 355 Total Protein = 16g Total Fat = 11g Total Carbohydrates = 48g Calories from Fat = 27.88%	 Gourmet Deli Sandwich Total Calories = 337 Total Protein = 38g Total Fat = 9g Total Carbohydrates = 26g Calories from Fat = 24.03%	Tuna Salad Croissant Total Calories = 317 Total Protein = 25g Total Fat = 17g Total Carbohydrates = 16g
	 Combination Plate Total Calories = 335 Total Protein = 25g Total Fat = 7g Total Carbohydrates = 43g Calories from Fat = 18.80%	Chicken Salad Croissant Total Calories = 378 Total Protein = 42g Total Fat = 14g Total Carbohydrates = 21g	

ALA CARTE	 Fresh Apple Total Calories = 90 Total Protein = .3g Total Fat = .5g Total Carbohydrates = 21g Calories from Fat = 5%	Jumbo Cookie Total Calories = 122 Total Protein = 1g Total Fat = 6g Total Carbohydrates = 16g	Dinner Roll Total Calories = 86 Total Protein = 1.3g Total Fat = 5.5g Total Carbohydrates = 7.9g
	 Fresh Orange Total Calories = 68 Total Protein = 1.2g Total Fat = .2g Total Carbohydrates = 15.4g Calories from Fat = 2.64%	Oat Bran Muffin Total Calories = 290 Total Protein = 6.5g Total Fat = 9.7g Total Carbohydrates = 47.4g	

BEVERAGES	 Orange Juice Total Calories = 130 Total Protein = 2.3g Total Fat = .8g Total Carbohydrates = 28.5g Calories from Fat = 5%	2% Milk Total Calories = 120 Total Protein = 8g Total Fat = 5g Total Carbohydrates = 11g	 Grapefruit Juice Total Calories = 113 Total Protein = 1.4g Total Fat = .3g Total Carbohydrates = 26.2g Calories from Fat = 2%
	 Apple Juice Total Calories = 136 Total Protein = .2g Total Fat = .3g Total Carbohydrates = 33.1g Calories from Fat = 2%	 Skim Milk Total Calories = 79 Total Protein = 7.8g Total Fat = .4g Total Carbohydrates = 11.0g Calories from Fat = 4%	 Grape Juice Total Calories = 179 Total Protein = 1.6g Total Fat = .2g Total Carbohydrates = 42.7g Calories from Fat = 1%
		Whole Milk Total Calories = 142 Total Protein = 7.5g Total Fat = 7.7g Total Carbohydrates = 10.7g	



= Calories from fat equal to or less than 30%



(Appendix D)

GREEN GOURMET FOOD FREQUENCY CHART:

Week of _____ through _____

	Mon.	Tues.	Wed.	Thurs.	Fri.	TOTAL
Louis Seafood Salad						
Greek Salad						
Marinated Chicken Salad						
Vegetable Medley Salad						
Pesto Salad						
Fruit Platter						
Gourmet Deli Sandwich						
Vegetarian Sandwich						
Combination Plate						
Chicken Salad Croissant						
Tuna Salad Croissant						
TOTAL:						

(Appendix E)

GREEN GOURMET ORDER FORM

CUSTOMER NAME _____ CUSTOMER PHONE # _____

ROOM/BLDG. TO DELIVER TO _____

DELIVERY TIME AND DATE _____

ORDER TAKEN BY _____ DATE/TIME ORDER TAKEN _____

SALADS	QUANTITY	PRICE	TOTAL
MARINATED CHICKEN		\$4.50	
VEGETABLE MEDLEY		\$4.00	
LOUIS SEAFOOD		\$4.50	
FRUIT PLATTER		\$4.50	
GREEK		\$3.60	
PESTO		\$3.50	

SANDWICHES	QUANTITY	PRICE	TOTAL
CHICKEN SALAD CROISSANT		\$4.50	
TUNA SALAD CROISSANT		\$4.50	
VEGETARIAN SANDWICH		\$3.25	
GOURMET DELI: Meat(T, H, RB), Cheese(C, S), Bread(W, HW, HB, O)		\$4.25	
COMBO PLATE: Meat(T, H, RB), Cheese(C, S), Bread(W, HW, HB, O)		\$4.50	

BEVERAGES

POP: Coke () Diet Coke () Sprite () Diet Sprite ()		.80	
MILK: Whole () Skim () 2% ()		.50	
JUICE: Grapefruit () Orange () Apple () Grape ()		.80	

A LA CARTE

APPLE () ORANGE ()		.50	
CUP OF SOUP		\$1.25	
JUMBO COOKIE		.50	
OAT BRAN MUFFIN		.65	
DINNER ROLL/MARGARINE		.50	

 IDT # _____
 DEPT. NAME _____
 ACCT. # _____
 # AT MTG. _____
 PURPOSE _____

DELIVERY CHARGE .75/Entree _____

SUB TOTAL _____

TAX (NONE IF IDT) _____

TOTAL _____

 MEATS: T=TURKEY, H=HAM, RB=ROAST BEEF CHEESES: C=CHEDDAR, S=SWISS
 BREADS: W=WHITE, HW=WHOLE WHEAT, HB=HONEY BRAN, O=OATMEAL

Department Name: **Bank #:** **Date:** **Amount in Bank:** **Signature:**

[illegible]

(Appendix G)

MICHIGAN STATE UNIVERSITY
INTERDEPARTMENTAL TRANSFER/HOSPITALITY SERVICES
MSU UNION _____
355-3458

Nº 28331

Expenses for food, beverage & room rental must conform to sections 45 and 46 of the MSU Manual of Business Procedures. The following information is required by section 46. Return white and yellow copies to Union Business Office, retain pink copy for your records.

ACCOUNT NUMBER _____
 DEPARTMENT _____
 BILLING ADDRESS _____
 PHONE _____
 FUNCTION DATE _____

FULLY EXPLAIN SPECIFIC BUSINESS PURPOSE

AFFILIATIONS / ORG. REPRESENTED / NAMES (or # if more than five)

1. _____ 4. _____
 2. _____ 5. _____
 3. _____

#	Services Rendered	Each	Amount

I authorize the MSU Union Business Office to charge the total amount to the Department and Account Number listed above.

Subtotal _____
 Applicable Sales Tax _____
TOTAL _____

 Authorized Signature

 Date

MSU is an Affirmative Action/Equal Opportunity Institution

O-19051

(Appendix H)

GUARANTEES & PICKUPS SUNDAY AUGUST 11, 1991FUNCTIONGUARANTEE SET

NO FOOD FUNCTION SCHEDULED

GUARANTEES & PICKUPS MONDAY AUGUST 12, 1991FUNCTIONGUARANTEE SETWomens Studies

Refreshments/WATER

8:45 am Mike

Gold B

14

Steve

Union Catering

Refreshments

10:45 am

Parlor A

20

Catering

Return to SOHN

in am Mike

Return to Sohn 6 Mauve Overlays

GREEN GOURMET

Deliveries

11 am to 12:30 pm

Meals

Steve

Library

Delivery

11:00 am Steve

Delivery to W 102 Library
Directors Office

2

KiwanisBUFFET LUNCHEON

11:50 am Debbie

Parlor BC (set rm. for 88)

58 - 76

CateringBuffet Luncheon

12 Noon Carrie

Cafeteria

12

Womens Studies

CUR

12:30 pm Steve

CUR Gold B

Union Catering

CUR

1:15 pm Steve

CUR Parlor A

Library

PUE

2:00 pm Steve

PUE W102 Library-Directors Office

(Appendix I)

VEGETARIAN SANDWICH:

<u>Ingredients</u>	<u>Quantity</u>
pita bread, whole.....	1 each
leaf lettuce.....	2 leaves
cheddar cheese, sliced.....	0.5 oz (1 slice)
swiss cheese, sliced.....	0.5 oz (1 slice)
fresh tomato, sliced.....	2.0 oz
cucumber, sliced.....	1.0 oz
fresh mushrooms, sliced.....	0.5 oz
head lettuce, chopped.....	1.0 oz
lite Italian dressing.....	2.0 oz (PC)
.....	
GG platter	plasticware (K-F-S)
GG platter lid	wet-nap
GG napkin	
GG place mat	
.....	
1. PLACE PITA BREAD ON PLATTER (DO NOT CUT OPEN OR FOLD).	
2. WASH LEAF LETTUCE, DRY. PLACE AT TOP OF PITA BREAD.	
3. DISTRIBUTE EACH TYPE OF CHEESE ON PITA BELOW LEAF LETTUCE.	
4. WASH TOMATO, CUT INTO 1/4" SLICES AND PLACE ON TOP OF CHEESE.	
5. WASH CUCUMBER, CUT INTO SLICES AND PLACE ON TOP OF TOMATO SLICES.	
6. WASH MUSHROOMS, SLICE AND PLACE ON TOP OF CUCUMBER SLICES.	
7. PLACE CHOPPED LETTUCE ON TOP OF LEAF LETTUCE.	
8. FOLD PITA. PLACE DRESSING PC ON PLATTER ABOVE PITA.	
9. COVER PREPARED SANDWICH WITH LID AND REFRIGERATE UNTIL READY TO DELIVER.	

GOURMET DELI SANDWICH:

<u>Ingredients</u>	<u>Quantity</u>
leaf lettuce.....	1 leaf
bread (customers choice).....	2 slices
cheese, sliced (customers choice).....	0.5 oz (1 slice)
meat, sliced (customers choice).....	3.0 oz
fresh tomato, sliced.....	0.5 oz (1 slice)
dill pickle spear.....	1 each
Miracle Whip salad dressing, lite.....	1 PC
mustard.....	1 PC
.....	
GG platter	plasticware (K-F-S)
GG platter lid	wet-nap
GG napkin	
GG place mat	
.....	
1. WASH LEAF LETTUCE, DRY. PLACE ON ONE END OF PLATTER.	
2. ON ONE SLICE OF BREAD, PLACE CHEESE.	
3. PLACE PORTIONED MEAT ON TOP OF CHEESE, COVER WITH SECOND SLICE OF BREAD.	
4. DIVIDE SANDWICH IN HALF DIAGONALLY. WRAP EACH HALF IN PLASTIC WRAP. ARRANGE SANDWICH HALVES ON PLATTER WITH CRUSTS POINTING OUT (MAKE SURE CONTENTS OF SANDWICH CAN BE SEEN).	
5. WASH TOMATO AND CUT INTO 1/4" SLICE. CUT SLICE IN HALF AND PLACE ON LEAF LETTUCE.	
6. PLACE PICKLE SPEAR ON LEAF LETTUCE, BELOW TOMATO SLICES.	
7. PLACE PC'S ON PLATTER BETWEEN SANDWICH AND PICKLE SPEAR.	
8. COVER PREPARED SANDWICH WITH LID AND REFRIGERATE UNTIL READY TO DELIVER.	

FRUIT PLATTER:

<u>Ingredients</u>	<u>Quantity</u>
leaf lettuce.....	2 leaves
fresh honeydew.....	3.0 oz
fresh canteloupe.....	3.0 oz
fresh grapes (red or green).....	3.0 oz
fresh strawberries.....	3.0 oz
crackers.....	1 package
.....	
fruit dip	
yogurt (any available flavor).....	1 container
honey.....	0.5 oz
.....	
GG platter	plasticware (K-F-S)
GG platter lid	souffle cup (5.5 oz)
GG napkin	souffle cup lid (5.5 oz)
GG place mat	wet-nap
.....	
1. WASH LEAF LETTUCE, DRY. PLACE ONE LEAF ON EACH END OF PLATTER.	
2. PEEL MELONS AND REMOVE SEEDS. CUT INTO CUBES AND PLACE IN COUNTER PAN.	
3. REMOVE GRAPES FROM STEM, WASH AND PLACE IN PAN WITH MELON.	
4. WASH STRAWBERRIES, REMOVE STEMS AND CUT INTO HALVES. PLACE IN PAN WITH ABOVE FRUIT.	
5. MIX FRUIT TOGETHER AND PLACE ON PLATTER.	
6. COMBINE FRUIT DIP INGREDIENTS TOGETHER IN SMALL CONTAINER. PORTION INTO SOUFFLE CUP, COVER WITH LID AND PLACE IN CENTER OF PLATTER.	
7. PLACE CRACKERS ON TOP OF FRUIT AT ONE END OF PLATTER.	
8. COVER PREPARED SALAD WITH LID AND REFRIGERATE UNTIL READY TO DELIVER.	

COMBINATION PLATE:

<u>Ingredients</u>	<u>Quantity</u>
leaf lettuce.....	1 leaf
fresh honeydew.....	1.5 oz
fresh canteloupe.....	1.5 oz
fresh grapes (red or green).....	1.5 oz
fresh strawberries.....	1.5 oz
bread (customers choice).....	1 slice
cheese, sliced (customers choice).....	0.5 oz (1 slice)
meat, sliced (customers choice).....	1.5 oz
fresh tomato, sliced.....	0.5 oz (1 slice)
Miracle Whip salad dressing, lite.....	1 PC
mustard.....	1 PC
.....	
fruit dip	
yogurt (any available flavor).....	1 container
honey.....	0.5 oz
.....	
GG platter	plasticware (K-F-S)
GG platter lid	souffle cup (2 oz)
GG napkin	souffle cup lid (2 oz)
GG place mat	wet-nap
.....	
1. WASH LEAF LETTUCE, DRY. PLACE ONE LEAF ON EACH END OF PLATTER.	
2. PEEL MELONS AND REMOVE SEEDS. CUT INTO CUBES AND PLACE IN COUNTER PAN.	
3. REMOVE GRAPES FROM STEM, WASH AND PLACE IN PAN WITH MELON.	
4. WASH STRAWBERRIES, REMOVE STEMS AND CUT INTO HALVES. PLACE IN PAN WITH ABOVE FRUIT.	
5. MIX FRUIT TOGETHER AND PLACE ON PLATTER.	
6. COMBINE FRUIT DIP INGREDIENTS TOGETHER IN SMALL CONTAINER. PORTION INTO SOUFFLE CUP, COVER WITH LID AND PLACE NEAR FRUIT.	
7. PLACE CHEESE ON SLICE OF BREAD, CUT IN HALF DIAGONALLY.	
8. PLACE PORTIONED MEAT ON ONE HALF OF SANDWICH. PUT SECOND HALF OF SANDWICH (BREAD AND CHEESE) ON TOP OF MEAT.	
9. WRAP IN PLASTIC WRAP. ARRANGE SANDWICH ON PLATTER BELOW FRUIT. (MAKE SURE CONTENTS OF SANDWICH CAN BE SEEN).	
10. WASH TOMATO AND CUT INTO 1/4" SLICE. CUT SLICE IN HALF AND PLACE BELOW SANDWICH.	
11. PLACE PC'S ON PLATTER BETWEEN SANDWICH AND FRUIT.	
12. COVER PREPARED ENTREE WITH LID AND REFRIGERATE UNTIL READY TO DELIVER.	

GREEK SALAD:

<u>Ingredient</u>	<u>Quantity</u>
head lettuce, chopped.....	6.5 oz
fetta cheese.....	1.0 oz
fresh cherry tomatoes.....	1.5 oz
cucumber, sliced.....	1.5 oz (4 slices)
black olives, whole.....	0.5 oz (4 olives)
red onion, sliced.....	0.45 oz
greek dressing, (powdered mix).....	2.0 oz
.....	
GG platter	plasticware (K-F-S)
GG platter lid	souffle cup (2 oz)
GG napkin	souffle cup lid (2 oz)
GG place mat	wet-nap
.....	
1. EVENLY DISTRIBUTE LETTUCE ON PLATTER.	
2. CRUMBLE FETTA CHEESE, SPRINKLE OVER LETTUCE.	
3. WASH TOMATOES, CUT IN HALF AND PLACE ON LETTUCE (AROUND PLATTER) WITH SEED SIDE DOWN.	
4. WASH CUCUMBER, SLICE AND PLACE AROUND MIDDLE OF SALAD.	
5. EVENLY DISTRIBUTE OLIVES AROUND PLATTER (IN BETWEEN TOMATO HALVES).	
6. PEEL OUTSIDE OF SHELL OF ONION OFF. CUT ONION INTO 1/8" SLICES AND PLACE ON TOP OF SALAD.	
7. COVER PREPARED SALAD WITH LID AND REFRIGERATE UNTIL READY TO DELIVER.	
8. PREPARE DRESSING ACCORDING TO PACKAGE DIRECTIONS. PORTION PREPARED DRESSING INTO SOUFFLE CUP AND COVER WITH LID. PLACE NEXT TO PREPARED SALAD IN REFRIGERATOR UNTIL READY TO DELIVER.	

CHICKEN SALAD CROISSANT:

<u>Ingredients</u>	<u>Quantity</u>
leaf lettuce.....	1 leaf
chicken breast, cooked and diced.....	3.0 oz
fresh pineapple, finely chopped.....	1.0 oz
celery, finely chopped.....	0.5 oz
Miracle Whip salad dressing, lite.....	1 Tbsp.
black pepper.....	1/8 tsp.
fresh croissant.....	1 each
fresh tomato.....	0.5 oz (1 slice)
cucumber, sliced.....	0.5 oz (3 slices)
.....	
GG platter	plasticware (K-F-S)
GG platter lid	wet-nap
GG napkin	
GG place mat	
.....	
1. WASH LEAF LETTUCE, DRY. PLACE ON ONE END OF PLATTER.	
2. COOK CHICKEN IN OVEN FOR APPROXIMATELY 10 MINUTES. AFTER COOKING, COOL IN REACH-IN REFRIGERATOR. WHEN CHICKEN IS COOLED, DICE INTO SMALL CHUNKS AND PLACE IN COUNTER PAN.	
3. PEEL PINEAPPLE AND DICE INTO SMALL CHUNKS. COMBINE WITH CHICKEN.	
4. WASH CELERY AND DICE INTO SMALL CHUNKS. COMBINE WITH CHICKEN AND PINEAPPLE.	
5. ADD DRESSING AND PEPPER TO ABOVE MIXTURE. MIX WELL.	
6. PORTION CHICKEN SALAD ONTO CROISSANT HALF. COVER WITH OTHER CROISSANT HALF. PLACE ON PLATTER BELOW LEAF LETTUCE.	
7. WASH TOMATO AND CUT A 1/4" SLICE. CUT IN HALF AND PLACE ON LEAF LETTUCE.	
8. WASH CUCUMBER AND CUT INTO SLICES. PLACE ON LEAF LETTUCE BELOW TOMATO SLICES.	
9. COVER PREPARED SANDWICH WITH LID AND REFRIGERATE UNTIL READY TO DELIVER.	

TUNA SALAD CROISSANT:

<u>Ingredients</u>	<u>Quantity</u>
leaf lettuce.....	1 leaf
tuna (packed in water).....	3.0 oz
celery, finely chopped.....	0.5 oz
Miracle Whip salad dressing, lite.....	1 Tbsp.
black pepper.....	1/8 tsp.
fresh croissant.....	1 each
fresh tomato.....	0.5 oz (1 slice)
cucumber, sliced.....	0.5 oz (3 slices)
.....	
GG platter	plasticware (K-F-S)
GG platter lid	wet-nap
GG napkin	
GG place mat	
.....	
1. WASH LEAF LETTUCE, DRY. PLACE ON ONE END OF PLATTER.	
2. DRAIN TUNA AND PLACE IN COUNTER PAN.	
3. WASH CELERY AND DICE INTO SMALL CHUNKS. COMBINE WITH TUNA.	
4. ADD DRESSING AND PEPPER TO ABOVE MIXTURE. MIX WELL.	
6. PORTION TUNA SALAD ONTO CROISSANT HALF. COVER WITH OTHER CROISSANT HALF. PLACE ON PLATTER BELOW LEAF LETTUCE.	
7. WASH TOMATO AND CUT A 1/4" SLICE. CUT IN HALF AND PLACE ON LEAF LETTUCE.	
8. WASH CUCUMBER AND CUT INTO SLICES. PLACE ON LEAF LETTUCE BELOW TOMATO SLICES.	
9. COVER PREPARED SANDWICH WITH LID AND REFRIGERATE UNTIL READY TO DELIVER.	

MARINATED CHICKEN SALAD:

<u>Ingredients</u>	<u>Quantity</u>
marinade	
soy sauce.....	0.25 cup
sesame oil.....	0.125 cup
garlic powder.....	0.063 tsp
ground ginger.....	0.063 tsp
.....	
chicken breast, boneless.....	3.5 oz
head lettuce, chopped.....	6.5 oz
whole sesame seeds.....	0.15 oz
whole carrot, sliced.....	0.5 oz (4 slices)
green pepper, strips.....	0.5 oz (4 strips)
red pepper, strips.....	0.25 oz (2 strips)
green onion, chopped.....	0.25 oz
sliced almonds.....	0.25 oz
.....	
dressing (optional)	
vegetable oil.....	0.35 cup
white vinegar.....	3.0 Tbsp.
white sugar.....	2.0 Tbsp.
black pepper.....	0.5 tsp.
Lawrey's seasoning.....	1.0 tsp.
.....	
GG platter	plasticware (K-F-S)
GG platter lid	souffle cup (2 oz)
GG napkin	souffle cup lid (2 oz)
GG place mat	wet-nap
.....	
1. COMBINE ALL MARINADE INGREDIENTS TOGETHER IN COUNTER PAN.	
2. THAW CHICKEN BREAST(S). MARINADE CHICKEN IN ABOVE MIXTURE FOR APPROXIMATELY 15 MINUTES.	
3. REMOVE MARINATED CHICKEN FROM PAN AND PLACE ON BAKING SHEET. COOK IN 350° F OVEN FOR APPROXIMATELY 10 MINUTES. AFTER COOKING, PLACE IN REACH-IN REFRIGERATOR TO COOL.	
4. EVENLY DISTRIBUTE CHOPPED LETTUCE ON PLATTER.	
5. SPRINKLE SESAME SEEDS OVER LETTUCE.	
6. WASH CARROT AND CUT FOUR SLICES. PLACE ONE SLICE IN EACH CORNER OF PLATTER.	
7. CUT COOLED CHICKEN INTO STRIPS. EVENLY DISTRIBUTE OVER MIDDLE SECTION OF LETTUCE.	
8. WASH EACH TYPE OF PEPPER AND CUT INTO STRIPS. PLACE GREEN PEPPER STRIPS BETWEEN CARROT SLICES. PLACE RED PEPPER STRIPS ON TOP OF CHICKEN.	
9. WASH GREEN ONION, CHOP AND SPRINKLE OVER TOP OF SALAD.	
10. SPRINKLE ALMONDS OVER SALAD.	
11. COVER PREPARED SALAD WITH LID AND REFRIGERATE UNTIL READY TO DELIVER.	
12. COMBINE ALL DRESSING INGREDIENTS TOGETHER IN SMALL CONTAINER. PLACE ONE OUNCE OF PREPARED DRESSING IN SOUFFLE CUP. COVER AND PUT NEXT TO SALAD IN REFRIGERATOR UNTIL READY TO DELIVER.	

LOUIS SEAFOOD SALAD:

<u>Ingredients</u>	<u>Quantity</u>
leaf lettuce.....	2 leaves
head lettuce, chopped.....	4.0 oz
fish fillets (any type available).....	1.0 oz
salad shrimp, pre-cooked.....	2.0 oz
imitation crab.....	2.0 oz
egg, hard boiled.....	2 quarters
black olive, whole.....	1 each
fresh tomato, wedges.....	2.0 oz (2 wedges)
.....	
sauce	
Miracle Whip salad dressing, lite.....	1.0 oz
chili sauce.....	1.0 oz
lemon juice (Realemon brand).....	0.35 oz
.....	
GG platter	plasticware (K-F-S)
GG platter lid	souffle cup (2 oz)
GG napkin	souffle cup lid (2 oz)
GG place mat	wet-nap
.....	
1. WASH LEAF LETTUCE, DRY. PLACE ONE LEAF ON EACH END OF PLATTER.	
2. EVENLY DISTRIBUTE LETTUCE ON PLATTER.	
3. PLACE FISH IN COUNTER PAN AND COOK IN STEAMER FOR 3-4 MINUTES. AFTER COOKING, REMOVE AND PUT INTO REACH-IN REFRIGERATOR TO COOL.	
4. PLACE SHRIMP IN COLANDER. THAW UNDER COLD RUNNING WATER. PLACE THAWED SHRIMP ON LETTUCE (BOTTOM LEFT SIDE OF PLATTER).	
5. PLACE CRAB IN COLANDER. THAW UNDER COLD RUNNING WATER. PLACE CRAB ON LETTUCE (BOTTOM CENTER OF PLATTER).	
6. IF BOILED EGGS ARE NOT AVAILABLE, COOK NEEDED AMOUNT IN STEAMER FOR 12 MINUTES. AFTER COOKING, REMOVE AND COOL UNDER COLD RUNNING WATER. PEEL COOKED EGG(S). CUT INTO QUARTERS AND PLACE TWO QUARTERS ON TOP SECTION OF PLATTER.	
7. PLACE OLIVE BETWEEN EGG QUARTERS.	
8. WASH TOMATO. CUT INTO FOUR WEDGES. PLACE TWO WEDGES ON PLATTER, ONE NEXT TO EACH EGG QUARTER.	
9. COVER PREPARED SALAD WITH LID AND REFRIGERATE UNTIL READY TO DELIVER.	
10. COMBINE ALL DRESSING INGREDIENTS TOGETHER IN SMALL CONTAINER. PLACE PREPARED DRESSING IN SOUFFLE CUP. COVER AND PUT NEXT TO SALAD IN REFRIGERATOR UNTIL READY TO DELIVER.	

PESTO SALAD:

<u>Ingredients</u>	<u>Quantity</u>
spaghetti.....	2.0 oz raw
	6.0 oz cooked
pesto.....	0.25 oz
creamy Italian dressing.....	0.5 oz
leaf lettuce.....	2 leaves
parmesan cheese, grated.....	0.5 oz
egg, hard boiled.....	1 half
fresh cherry tomatoes.....	1.0 oz (8 halves)
green pepper.....	0.6 oz (4 strips)
black olives, whole.....	1.0 oz (6 olives)
.....	
GG platter	plasticware (K-F-S)
GG platter lid	wet-nap
GG napkin	
GG place mat	
.....	
1. COOK NOODLES IN BOILING WATER FOR 8-10 MINUTES OR UNTIL TENDER. STRAIN AND COOL UNDER COLD RUNNING WATER.	
2. IN BOWL, COMBINE NOODLES AND PESTO UNTIL PESTO IS EVENLY DISTRIBUTED.	
3. MIX ITALIAN DRESSING INTO NOODLES.	
4. WASH LEAF LETTUCE. DRY AND PLACE ONE LEAF ON EACH END OF PLATTER.	
5. PORTION NOODLE MIXTURE ONTO PLATTER.	
6. SPRINKLE CHEESE DOWN CENTER OF SALAD (LENGTH WISE)	
7. IF BOILED EGGS ARE NOT AVAILABLE, COOK NEEDED AMOUNT IN STEAMER FOR 12 MINUTES. AFTER COOKING, REMOVE AND COOL UNDER COLD RUNNING WATER. PEEL COOKED EGG(S), DICE AND DISTRIBUTE EVENLY ON CHEESE.	
8. WASH CHERRY TOMATOES, CUT INTO HALVES. PLACE FOUR HALVES ON EACH SIDE OF CHEESE/EGG (SEED SIDE DOWN).	
9. WASH GREEN PEPPER AND CUT INTO 1/4" JULIENNE STRIPS. PLACE OVER CHEESE/EGG WITH EACH GREEN PEPPER END TOUCHING TOMATO HALVES.	
10. COVER PREPARED SALAD WITH LID AND REFRIGERATE UNTIL READY TO DELIVER.	

VEGETABLE MEDLEY SALAD:

<u>Ingredients</u>	<u>Quantity</u>
head lettuce, chopped.....	6.5 oz
broccoli, flowerettes.....	2.0 oz
fresh mushrooms, sliced.....	1.0 oz
fresh tomatoes, wedges or cherry.....	2.0 oz
fresh carrot, sliced.....	1.5 oz
green pepper, diced.....	0.5 oz
cheddar cheese, shredded.....	0.5 oz
dressing, customers choice.....	2.0 oz (PC)
.....	
GG platter	plasticware (K-F-S)
GG platter lid	wet-nap
GG napkin	
GG place mat	
.....	
1. EVENLY DISTRIBUTE LETTUCE ON PLATTER.	
2. WASH BROCCOLI, CUT INTO SMALL SECTIONS AND PLACE IN DIAGONAL ROW ALONG LEFT SIDE OF PLATTER.	
3. WASH MUSHROOMS, SLICE AND PLACE NEXT TO BROCCOLI.	
4. WASH TOMATOES, CUT AND PLACE NEXT TO MUSHROOMS.	
5. WASH CARROT, CUT INTO SLICES AND PLACE NEXT TO TOMATOES.	
6. WASH GREEN PEPPER, DICE AND PLACE NEXT TO CARROT SLICES.	
7. PLACE SHREDDED CHEDDAR CHEESE NEXT TO GREEN PEPPER.	
8. COVER PREPARED SALAD WITH LID, PLACE DRESSING PC ON TOP OF LID AND REFRIGERATE UNTIL READY TO DELIVER.	

(Appendix J)

STAINLESS STEEL COUNTER PANS AND CAPACITIES:

<u>Size of Pan</u> <u>(inches)</u>	<u>Depth</u> <u>(inches)</u>	<u>Capacity</u>	
		<u>quarts</u>	<u>cups</u>
Full Size 12 x 20	2.25	7.50	30
Full Size 12 x 20	4.00	13.0	52
Half Size 12 x 10	2.25	3.75	15
Half Size 12 x 10	4.00	6.50	26

(Appendix K)

Based on an inspection this day, the items marked below are violations of Act 368 P.A. 1978 in operation or facilities which must be corrected by the next routine inspection, or within a period specified by the Health Authority in writing. Failure to comply with this notice may result in license suspension and/or other legal action. You have the right to appeal any violations listed.		OWNER OR OPERATOR NAME OF ESTABLISHMENT ADDRESS CITY OR TOWNSHIP ZIP	
FOOD SERVICE ESTABLISHMENT INSPECTION REPORT		TIME _____ DATE _____	Health Department

ITEM	WT.	ITEM	WT.	ITEM	WT.
FOOD SOURCE: SOUND CONDITION, NO *01 SPOILAGE	5	17 ACCURATE THERMOMETERS, CHEMICAL TEST KITS PROVIDED, GAUGE COCK (1/4" IPS VALVE)	1	GARBAGE AND REFUSE DISPOSAL	
02 ORIGINAL CONTAINER: PROPERLY LABELED	1	18 UTENSILS, TABLEWARE: PRE-FLUSHED, SCRAPPED, SOAKED	1	33 CONTAINERS OR RECEPTACLES, COVERED ADEQUATE NUMBER, INSECT/ RODENT PROOF, FREQUENCY, CLEAN	2
FOOD PROTECTION		19 WASH, RINSE WATER: CLEAN, PROPER TEMPERATURE	2	34 OUTSIDE STORAGE AREA ENCLOSURES PROPERLY CONSTRUCTED, CLEAN: CONTROLLED INCINERATION	1
*03 POTENTIALLY HAZARDOUS FOOD MEETS TEMPERATURE REQUIREMENTS DURING STORAGE, PREPARATION, DISPLAY, SERVICE, TRANSPORTATION	5	*20 SANITIZATION RINSE: CLEAN, TEMPERATURE, CONCENTRATION, EXPOSURE TIME, EQUIPMENT AND UTENSILS SANITIZED	4	INSECT, RODENT, ANIMAL CONTROL	
*04 FACILITIES TO MAINTAIN PRODUCT TEMPERATURE	4	21 WIPING CLOTHS CLEAN, STORED, RESTRICTED	1	*35 PRESENCE OF INSECTS/RODENTS OUTER OPENINGS PROTECTED, NO BIRDS, TURTLES, OTHER ANIMALS	4
05 THERMOMETERS PROVIDED AND CONSPICUOUS	1	22 FOOD CONTACT SURFACES OF EQUIPMENT AND UTENSILS CLEAN, FREE OF ABRASIVES, DETERGENTS	2	FLOORS, WALLS AND CEILINGS	
06 POTENTIALLY HAZARDOUS FOOD PROPERLY THAWED	2	23 NON-FOOD CONTACT SURFACES OF EQUIPMENT AND UTENSILS CLEAN	1	36 FLOORS CONSTRUCTED, DRAINED, CLEAN, GOOD REPAIR, COVERING INSTALLATION, DUSTLESS CLEANING METHODS	1
*07 CROSS-CONTAMINATION: UNWRAPPED AND POTENTIALLY HAZARDOUS FOOD NOT RE-SERVED	4	24 STORAGE, HANDLING OF CLEAN EQUIPMENT/UTENSILS	1	37 WALLS, CEILING, ATTACHED EQUIPMENT CONSTRUCTED, GOOD REPAIR, CLEAN SURFACES, DUSTLESS CLEANING METHODS	1
08 FOOD PROTECTION DURING STORAGE, PREPARATION, DISPLAY, SERVICE, TRANSPORTATION	2	25 SINGLE-SERVICE ARTICLES: STORAGE, DISPENSING	1	LIGHTING	
09 HANDLING OF FOOD (ICE) MINIMIZED, SUITABLE UTENSILS	2	26 NO RE-USE OF SINGLE SERVICE ARTICLES	2	38 LIGHTING PROVIDED AS REQUIRED. FIXTURES SHIELDED	1
10 IN USE, FOOD (ICE) DISPENSING UTENSILS PROPERLY STORED	1	WATER		VENTILATION	
PERSONNEL		*27 WATER SOURCE: SAFE, HOT AND COLD UNDER PRESSURE	5	39 ROOMS AND EQUIPMENT VENTED AS REQUIRED	1
*11 PERSONNEL WITH INFECTIONS RESTRICTED	5	SEWAGE		DRESSING ROOMS	
*12 HANDS WASHED AND CLEAN, GOOD HYGIENIC PRACTICES	5	*28 SEWAGE AND WASTE WATER DISPOSAL	4	40 ROOMS CLEAN, LOCKERS PROVIDED FACILITIES CLEAN, LOCATED, USED	1
13 CLEAN CLOTHES, HAIR RESTRAINTS	1	PLUMBING		OTHER OPERATIONS	
FOOD EQUIPMENT AND UTENSILS		29 INSTALLED, MAINTAINED	1	NECESSARY TOXIC ITEMS PROPERLY STORED, LABELED, USED	5
14 FOOD (ICE) CONTACT SURFACES: DESIGNED, CONSTRUCTED, MAINTAINED, INSTALLED, LOCATED	2	*30 CROSS-CONNECTION, BACK SIPHONAGE, BACKFLOW	5	41 PREMISES MAINTAINED, FREE OF LITTER, UNNECESSARY ARTICLES, CLEANING, MAINTENANCE, EQUIPMENT PROPERLY STORED, AUTHORIZED PERSONNEL	1
15 NON-FOOD CONTACT SURFACES: DESIGNED, CONSTRUCTED, MAINTAINED, INSTALLED, LOCATED	1	TOILET AND HAND- WASHING FACILITIES		42 COMPLETE SEPARATION FROM LIVING/ SLEEPING QUARTERS, LAUNDRY	1
16 DISHWASHING FACILITIES, DESIGNED, CONSTRUCTED, MAINTAINED, INSTALLED, LOCATED, OPERATED	2	*31 NUMBER, CONVENIENT, ACCESSIBLE, DESIGNED, INSTALLED	4	43 CLEAN, BOILED LINEN PROPERLY STORED	1
		32 TOILET ROOMS ENCLOSED, SELF CLOSING DOORS, FIXTURES, GOOD REPAIR, CLEAN, HAND CLEANSER SANITARY TOWELS/TISSUE/HAND- DRYING DEVICES PROVIDED, PROPER WASTE RECEPTACLES	2		

ROUTINE INSPECTION RATING SCORE 100 LESS WEIGHT OF ITEMS VIOLATED		Y N PARTIAL OR FOLLOW-UP ☐ COMPLAINT INVESTIGATION ☐ FBD INVESTIGATION ☐ MANAGER CERTIFIED ☐ TYPE II WATER SUPPLY ☐ OCCASIONAL BUFFET ☐ SERVICE ☐	Y N A. IF 50 OR MORE SEATS: NON-SMOKERS AREA ☐ NON-SMOKERS SIGNS ☐ B. LICENSE POSTED ☐ C. ANTICHOKE TECHNIQUES POSTED ☐
*CRITICAL ITEMS REQUIRING IMMEDIATE ACTION		FOR FURTHER DETAILS SEE ACCOMPANYING EXPLANATION	
RECEIVED BY (Name and Title)		INSPECTED BY (Name and Title)	

This signature does not imply agreement or disagreement with any violation noted.

(Appendix L)

BUDGET ANALYSIS FOR MARCH - JULY, 1989

022

	MARCH	SI (18)	APRIL	SI	MAY	SI	JUNE	SI	JULY	SI	TOTAL	SI
		PERCENT		PERCENT		PERCENT		PERCENT		PERCENT		PERCENT
DAYS OF SERVICE	5.000		25.000		30.000		29.000		28.000		117.000	
LUNCH SALES (1)	45.350		205.450		955.030		303.950		331.730		1841.510	
COST GOODS SOLD (2)	17.560	0.390	79.790	0.390	305.110	0.310	99.710	0.330	102.370	0.310	604.540	0.320
GROSS PROFIT (3)	27.790	0.610	125.660	0.610	649.920	0.680	204.240	0.670	229.360	0.690	1236.970	0.670
BRAD. ASSIST. (4)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
APSA LABOR (5)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RECPT. LABOR (6)	3.470	0.080	7.710	0.040	9.260	0.010	12.730	0.040	25.032	0.080	58.202	0.030
REG. LABOR (7)	10.410	0.230	41.600	0.200	143.240	0.150	40.440	0.130	0.000	0.000	235.690	0.130
							(49) (51.990)	(0.170)	(70.460)	(0.210)	(517.700)	(0.170)
TRANSP. LABOR (8)	4.620	0.100	11.600	0.060	31.220	0.030	10.400	0.030	0.000	0.000	57.840	0.030
							(16.180)	(0.050)	(40.430)	(0.120)	(104.050)	(0.060)
TOTAL PAYROLL (9)	18.510	0.410	60.910	0.300	183.720	0.190	63.570	0.210	25.032	0.080	351.742	0.190
							(80.900)	(0.270)	(135.922)	(0.410)	(479.242)	(0.260)
TRANSPORT. (10)	0.648	0.010	2.808	0.010	2.376	0.010	2.160	0.010	3.672	0.010	11.664	0.010
TELEPHONE (11)	7.500	0.170	30.000	0.150	30.000	0.030	30.000	0.100	30.000	0.090	127.500	0.070
POSTAGE (12)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
UTILITIES (12)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RENTALS (12)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ADVERT./PRINT (13)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GEN. SUPPL./MGT.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
EQUIPMENT (14)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MAINTAINANCE (14)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LAUNDRY (15)	0.870	0.020	3.480	0.020	4.060	0.010	2.610	0.010	4.930	0.010	15.950	0.010
TOTAL OTHER (16)	9.018	0.200	36.288	0.180	36.436	0.040	34.770	0.110	38.602	0.120	155.114	0.080
NET REVENUE (17)	0.262	0.110	28.462	0.140	429.764	0.450	105.900	0.350	165.726	0.500	730.114	0.400
							(82.570)	(0.290)	(34.766)	(0.170)	(601.824)	(0.330)

022

FORCASTED AMOUNTS FOR 1989-90

022

	AUGUST	SEPT	OCT	NOV	DEC	JAN	FEB	MARCH	APRIL	MAY	JUNE	TOTAL
CUSTOMER COUNT (20)	55,000	160,000	170,000	130,000	90,000	180,000	190,000	180,000	170,000	160,000	160,000	1,705,000
LUNCH SALES (21)	267,800	659,200	700,400	741,600	570,800	741,600	782,800	741,600	700,400	659,200	659,200	7,024,600
COST GOODS SOLD	93,730	230,720	245,140	255,560	129,780	259,560	273,980	255,560	245,140	230,720	230,720	2,458,610
GROSS PROFIT	174,070	428,480	455,260	482,040	241,020	482,040	508,820	482,040	455,260	428,480	428,480	4,565,990
GRAD. ASSIST. APSA LABOR												
RECPT. LABOR	13,390	32,960	35,020	37,080	18,540	37,080	39,140	37,080	35,020	32,960	32,960	381,230
REG. LABOR	50,882	125,748	133,076	140,904	70,452	140,904	148,732	140,904	133,076	125,748	125,748	1,334,674
TRANSP. LABOR	18,746	46,144	49,028	51,912	25,752	51,912	54,796	51,912	49,028	46,144	46,144	491,722
TOTAL PAYROLL	95,696	210,944	224,128	237,312	118,656	237,312	250,496	237,312	224,128	210,944	210,944	2,247,872
TRANSPORT. TELEPHONE POSTAGE UTILITIES RENTALS ADVERT./PRINT GEN. SUPPL./MGT. EQUIPMENT MAINTAINENCE LAUNDRY TOTAL OTHER												
	34,814	85,696	91,052	96,408	48,204	96,408	101,764	96,408	91,052	85,696	85,696	913,198
NET REVENUE	61,594	151,616	161,092	170,568	85,284	170,568	180,044	170,568	161,092	151,616	151,616	1,615,658

FOOTNOTES FOR GREEN GOURMET BUDGET ANALYSIS:

- (1) Lunch sales are based on the selling price of the food items plus a \$.75 delivery charge per customer. (for a listing of current selling prices, see attached price list labeled Appendix A.).
- (2) The cost of goods sold is based on the food cost of each item. The food cost includes the cost of ingredients and packaging. (for a listing of current food costs, see attached food cost analysis labeled Appendix B.).
- (3)
$$\begin{array}{ccc} \text{The gross profit} & = & \text{lunch sales} - \text{cost goods sold} \\ (3) & & (1) \qquad \qquad (2) \end{array}$$
- (4) Graduate assistant funds do not come out of the MSU Union payroll and, therefore, were not calculated as part of the total payroll.
- (5) APSA labor showed as cost of zero due to the fact that there is minimal time put in to oversee Green Gourmet operations.
The only substantial amount of time put into Green Gourmet by APSA employees is the attendance at Green Gourmet committee meetings which are held approximately one time per month for two hours each. It was decided that these hours would not be figured into the overall budget.
- (6) Receptionists labor is based on 5 min. per order for small orders (1-9 entrees) and 10 min. per order for large group orders (>9 entrees). With labor figured in at \$ 4.62/hour each 5 min. costs \$.385.
- (7) Regular labor is based on \$ 4.62/hour and is dependent upon the food item that was produced. See below:

marinated chicken	= 30 min.	= \$ 2.31	(individual lunch)
fruit platter	= 30 min.	= \$ 2.31	"
pesto salad	= 30 min.	= \$ 2.31	"
all others	= 15 min.	= \$ 1.16	"

1-5 entrees of
the same kind = 30 min. = \$ 2.31
- (8) Transportation labor is based on \$ 4.62/hour and is dependent upon the number of deliveries being made. See below:
1-5 lunches in same location = 15 min. = \$ 1.16
1-? lunches in different locations = 15 min. each at \$ 1.16
5-10 lunches in the same location = 30 min. = \$ 2.31
>10 lunches in the same location = 30-60 min. = \$ 2.31-\$ 4.62
- (9)
$$\begin{array}{ccccccc} \text{Total payroll} & = & \text{APSA} & + & \text{receptionists} & + & \text{regular} & + & \text{transportatn.} \\ & & \text{labor} & & \text{labor} & & \text{labor} & & \text{labor} \\ (9) & & (5) & & (6) & & (7) & & (8) \end{array}$$

- (10) Transportation is based on the cost of gas for the vehicle. At \$ 1.08/gallon with the delivery vans getting an average of 10 miles/gallon, it can be calculated that 1 mile of travel = \$.108. On the average, a delivery van will travel 2 miles each day for deliveries.
- (11) Telephone costs are based on an average \$ 30.00 line charge per month.
- (12) Postage, utilities, and rentals show a cost of zero because they are payed through the university or are not applicable.
- (13) Advertising and printing costs are zero because these costs are incurred through Housing and Foodservice.
- (14) Equipment and maintenance costs are zero because they are not applicable to the Green Gourmet.
- (15) Laundry cost is based on the use of one apron per day per production person. The cost to clean one apron = \$.29.
- (16) Total other = the addition of all items between (10) and (15)
(16) inclusive.
- (17) Net revenue = total payroll + total other - gross profit
(17) (9) (16) (3)
- (18) Statistical indicators (%) are all calculated as a percentage of lunch sales. = $\frac{X}{\text{lunch sales for that month}}$ = percentage of sales
- ** where X = items (2)-(17)
- These calculations were done for the months of March, April, May, June, and July 1989.
- (19) Because there was no regular labor working for Green Gourmet June 15-July 31, 1989, the costs were not directly incorporated into the results. However, the () indicate what the costs would have been if the work had been done by Union employees. The () costs are shown for both production and distribution.
- The actual labor for June 15-July 31, 1898 was done by a graduate assistant who is funded through Housing and Foodservice. These wages were not calculated into the budget because the Union is not paying the individual directly.
- (20) The forcasted customer counts are based on the following:
- May 1989 customer count = 72 (does not include group order of 150 people)
- Therefore,
- August = 10 % less than May = 65 customers

September = double May, increase 10 % = 160

This higher count can be justified by the increase of faculty and staff returning to campus.

October = 5 % higher than September = 170

November = 5 % higher than October = 180

December = 50 % of November = 90

This can be justified because there are only two weeks in December that the university is operating due to the Christmas holiday.

January = same as November = 180

February = 5 % higher than January = 190

This increase is due to cold weather.

March = 5 % lower than February = 180

This decrease can be justified because there are three operating weeks in March due to the Easter holiday.

April = 5 % lower than March = 170

This decrease is due to the spring season which is not as popular as winter months.

May = 5 % lower than April = 160

June = same as May = 160

The customer count should stay the same throughout the summer due to increase publicity and popularity.

- (21) The forecast lunch sales for August 1989-June 1990 are based on average lunch sales for May 1989 divided by the number of customers served for May 1989 (these figures do not include the group order for 150 people). See below:

$$\frac{\$ 296.83}{72} = \$ 4.12 = \text{average check}$$

This average check amount was then multiplied by the forecasted customer count for each month.

For example: forecasted lunch sales for September =
 $\$ 4.12 \times 160 = \$ 659.20$

The forecasted amounts for the remaining items in the left hand column for August 1989- June 1990 were calculated from average percentages from March-July 1989. Average percentages can be seen below:

cost goods sold	= 35 %
gross profit	= 65 %
receptionist labor	= 05 %
regular labor	= 19 %
transportation labor	= 07 %
total payroll	= 32 %
transportation	= 01 %
telephone	= 11 %
laundry	= 01 %
total other	= 13 %
net revenue	= 23 %

**** all items which showed a cost of zero were excluded from this section because they do not apply.**

Once an average percentage was determined for each of the categories in the left margin, the percentage was then multiplied by the forecasted lunch sales in that particular month. The results give the forecasted amounts for each item in the left hand column for each month (August 1989 through June 1990).

ADDITIONAL INFORMATION:

1. It can be estimated that the forecasted sales for August 1989 through June 1990 will increase by approximately 25 % due to the addition of the new take-out service that will start fall term 1989.
2. The value of publicity to Union foodservice should be noted at this time. The following is a list of the sources that have given publicity:

Healthy U publications
MSU News Bulletin
State News
Lansing State Journal
Nations Restaurant news
other campus publications

At an average of \$ 250.00/ad for local ads and an average of \$ 500.00/ad for non-local ads, it can be concluded that the free publicity has saved the Union a substantial amount of money.

There was also free publicity through the Healthy U and Michigan Dietetic Association Association poster displays which were held in May 1989.

A COMPARISON OF TOTALS

	First 5 Mth. of operat.	11 Mth. forecasted
Lunch Sales	\$ 1,841.51	\$ 7,024.60
Cost Goods Sold	\$ 604.54	\$ 2,458.61
Gross Profit	\$ 1,236.97	\$ 4,565.99
Recpt. Labor	\$ 58.20	\$ 351.23
Reg. Labor	\$ 317.70	\$ 1,334.67
Transp. Labor	\$ 104.05	\$ 491.72
Total Payroll	\$ 479.24	\$ 2,247.87
Total Other	\$ 155.11	\$ 913.20
Net Revenue	\$ 601.82	\$ 1,615.66

SECTION 9.

REFERENCES

Institute of Food Technologists' Expert Panel on Food Safety & Nutrition, "Bacteria Associated With Foodborne Diseases", Food Technology, (April 1988), p. 181-200.

Michigan Environmental Health Association, Michigan's Food Service Sanitation Regulations, updated November 1989, p. 16-21.

U.S. Department of Agriculture, Food Safety and Inspection Service, A Quick Consumer Guide To Safe Food Handling, Home and Garden Bulletin No. 248 (U.S. Government Printing Office, September 1990).

APPENDIX B.

GREEN GOURMET ORDER FORM

Appendix B. Green Gourmet order form

GREEN GOURMET ORDER FORM

CUSTOMER NAME _____ CUSTOMER PHONE # _____

ROOM/BLDG. TO DELIVER TO _____

DELIVERY TIME AND DATE _____

ORDER TAKEN BY _____ DATE/TIME ORDER TAKEN _____

SALADS	QUANTITY	PRICE	TOTAL
MARINATED CHICKEN		\$4.50	
VEGETABLE MEDLEY		\$4.00	
LOUIS SEAFOOD		\$4.50	
FRUIT PLATTER		\$4.50	
GREEK		\$3.60	
PESTO		\$3.50	

SANDWICHES

CHICKEN SALAD CROISSANT		\$4.50	
TUNA SALAD CROISSANT		\$4.50	
VEGETARIAN SANDWICH		\$3.25	
GOURMET DELI: Meat(T, H, RB), Cheese(C, S), Bread(W, HW, HB, O)		\$4.25	
COMBO PLATE: Meat(T, H, RB), Cheese(C, S.), Bread(W, HW, HB, O)		\$4.50	

BEVERAGES

POP: Coke () Diet Coke () Sprite () Diet Sprite ()		.80	
MILK: Whole () Skim () 2% ()		.50	
JUICE: Grapefruit () Orange () Apple () Grape ()		.80	

A LA CARTE

APPLE () ORANGE ()		.50	
CUP OF SOUP		\$1.25	
JUMBO COOKIE		.50	
OAT BRAN MUFFIN		.65	
DINNER ROLL/MARGARINE		.50	

 IDT # _____
 DEPT. NAME _____
 ACCT. # _____
 # AT MTG. _____
 PURPOSE _____

DELIVERY CHARGE .75/Entree _____

SUB TOTAL _____

TAX (NONE IF IDT) _____

TOTAL _____

 MEATS: T=TURKEY, H=HAM, RB=ROAST BEEF CHEESES: C=CHEDDAR, S=SWISS
 BREADS: W=WHITE, HW=WHOLE WHEAT, HB=HONEY BRAN, O=OATMEAL

APPENDIX C.

**QUESTIONNAIRE FOR A STUDY ON SAFE FOOD HANDLING
KNOWLEDGE, PRACTICES, AND OPINIONS OF CONSUMERS
WHO RECEIVED OFFICE-DELIVERED FOOD AT LUNCHTIME**

Appendix C. Questionnaire for a study on safe food handling knowledge, practices, and opinions of consumers who received office-delivered food at lunchtime

MICHIGAN STATE UNIVERSITY



This study is designed to find out the food safety knowledge, practices and opinions of consumers who eat office delivered food for lunch.

Information concerning the purpose of this study is provided inside. Your help with this study is greatly appreciated.

Thank-you for your time and cooperation!!

The Department of Food Science and Human Nutrition
Michigan State University
East Lansing, Michigan 48824

This survey will focus specifically on food safety issues surrounding lunch food that is delivered to and eaten at one's work place. Types of establishments that deliver lunch food to people's work place include Green Gourmet, pizza establishments and various restaurants which provide food such as sandwiches, salads and entrees.

SECTION I. Rating Scale

Read the following statements and rate each according to the scale given below. Circle the number to the right of the statement which corresponds to your choice.

SCALE: 0 = Never (no exceptions)

1 = Almost Never (very few exceptions)

2 = Seldom (not very often)

3 = Sometimes (50% of the time)

4 = Usually (majority of the time)

5 = Almost Always (very few exceptions)

6 = Always (no exceptions)

1. I wash my hands with warm soapy water and then rinse them before eating a delivered lunch at my work place. (Circle one number)

0 1 2 3 4 5 6

2. I let a lunch that has been delivered to my work place set out at room temperature for two hours or more before I eat it. (Circle one number)

0 1 2 3 4 5 6

3. The delivered lunch items that I receive at work are improperly packaged (for example: the lid is not snapped on all the way, the lid is cracked or the packaging is torn or punctured). (Circle one number)

0 1 2 3 4 5 6



If you responded by circling 0 or 1, please skip to question # 5.

4. I eat delivered lunch items that are improperly packaged.
(Please use the rating scale on the previous page to answer this question). (Circle one number)

0 1 2 3 4 5 6

5. In my opinion, delivered lunch items that I receive at work are free from microbiological contamination. (Please use the rating scale on the previous page to answer this question). (Circle one number)

0 1 2 3 4 5 6

SECTION II. Multiple Choice

The following questions are multiple choice. Please circle the letter to the left of the answer which you believe to be the best answer. Please circle only one letter for each question.

6. When you have a lunch delivered to you at work, do you normally save part of it for consumption at a later date?
(Circle one letter)

A. Yes

B. No—→ *If no, please skip to question # 8*

7. When you are ready to eat the leftovers from your delivered lunch, do you typically reheat them if they are intended to be consumed hot? (Circle one letter)

A. Yes—→ *If yes, please indicate which food item you would most often reheat: (Check one)*

B. No

_____ Entree (Please specify)

_____ Sandwich (Please specify)

_____ Other (Please specify)

8. Which of the following can carry harmful bacteria that cause foodborne illness? (Circle one letter)
- A. Fresh fruits
 - B. Fresh vegetables
 - C. Healthy people
 - D. Raw chicken breast
 - E. All of the above
 - F. None of the above
 - G. I do not know
9. Which of the following foods is microbiologically safe to consume after sitting out at room temperature for more than two hours? (Circle one letter)
- A. Roast beef sandwich
 - B. Pasta salad
 - C. Vegetable salad
 - D. All of the above
 - E. None of the above
 - F. I do not know
10. Certain types of bacteria which cause food poisoning can grow: (Circle one letter)
- A. At refrigerator temperatures
 - B. At room temperature
 - C. Both A and B are correct
 - D. Both A and B are incorrect
 - E. I do not know

11. After a lunch has been delivered to you at work, how long do you usually wait before you eat it? (Circle one letter)
- A. Less than one hour
 - B. Between one and two hours
 - C. More than two hours
12. While you are waiting to eat your delivered lunch at work, where do you normally store it? (Circle one letter)
- A. In a desk
 - B. On a counter, table or desk top
 - C. In a refrigerator
 - D. Some other location (Please specify_____)

SECTION III. Fill-In The Blank

The following two questions are fill-in the blank. Please place your answer in the space provided or put a check ✓ next to the statement "I do not know" if you do not know the correct response.

13. Leftover delivered lunch entrees that are to be served hot should be reheated to an internal temperature of:
- _____°F (Degrees Fahrenheit)
- _____I do not know
14. A refrigerator should operate at a temperature no higher than:
- _____°F (Degrees Fahrenheit)
- _____I do not know

SECTION IV. Demographic Information

Finally, I would like to ask you some questions about yourself. For each statement, put a check ✓ next to the selection which best describes you or put a response in the space provided.

15. What is your age? (Check one)

☐ 20-24	☐ 35-39	☐ 50-54
☐ 25-29	☐ 40-44	☐ 55-59
☐ 30-34	☐ 45-49	☐ 60 or older

16. What is your gender? (Check one)

☐ Female ☐ Male

17. Please indicate your main ethnic heritage: (Check one)

☐ African-American (Black)
☐ American Indian or Alaskan Native
☐ Asian/Pacific Islander
☐ Hispanic (American Mexican)
☐ White
☐ Other (Please specify _____)

18. What is the highest level of education you have completed?
(Check one)

☐ Less than high school

☐ High school graduate

☐ Some college

☐ College graduate (Associates degree)

☐ College graduate (Bachelors degree)

☐ Some graduate school or some professional (law, medical,
dental) school

☐ Graduate school or professional school graduate
(Please specify degree _____)

19. Typically, how many times do you purchase delivered food (such as food from Westside Deli, Green Gourmet or other restaurants) and have it delivered to your work place for lunch? (Please put a number in only one of the spaces below)

☐ Times per week

☐ Times per month

☐ Times per year

20. Besides lunch, do you purchase food and have it delivered to your work place for any other meal/snack time? (Check one)

☐ Yes → *If yes, please specify* _____

☐ No

21. Do you have a refrigerator at work that you have used to store a delivered lunch? (Check one)

☐ Yes

☐ No

22. Have you ever received information on safe food handling?
(Check one)

☐ Yes

☐ No—*If no, please skip to question # 24*

23. What are your major sources of information about safe food handling? (Please check all that apply and circle the one that you use most often)

☐ Friends or family

☐ Governmental pamphlets

☐ Television

☐ Formal classes

☐ Radio

☐ Job training

☐ Newspaper

☐ Health care provider

☐ Magazine

☐ Other (Please specify)

☐ Books

24. As a consumer, would you be willing to pay more for office delivered lunch items if there was a label added that had information on safe food handling, such as a consume by date or storage information? (Check one)

☐ I would pay considerably more

☐ I would pay slightly more

☐ I would not pay more

☐ I have no opinion at this time

Please continue on next page.

**THANK-YOU FOR PARTICIPATING IN THIS STUDY. YOUR
HELP IS GREATLY APPRECIATED.**

*If you would like to share any additional comments, please write on
the space provided below.*

APPENDIX D.

PILOT TESTING QUESTIONNAIRE

Appendix D. Pilot testing questionnaire

FOOD SAFETY QUESTIONNAIRE FOR GREEN GOURMET CUSTOMERS

SECTION I. RATING SCALE

Read the following statements and rate each according to the scale given below. Circle the number to the right of the statement which corresponds to your choice.

Scale: 1 = Almost Always (very few exceptions)

2 = Usually (majority of the time)

3 = Sometimes (50% of the time)

4 = Seldom (not very often)

5 = Almost Never (very few exceptions)

1. How often do you wash your hands with warm soapy water and then rinse them before eating your lunch?.....1 2 3 4 5
2. How often do you save part of your delivered lunch for consumption at a later date?.....1 2 3 4 5
3. How often do you reheat lunch leftovers?...1 2 3 4 5
4. How often do you cool lunch leftovers to room temperature on a counter or other location outside of a refrigerator?.....1 2 3 4 5
5. How often do you let your delivered lunch set out at room temperature for two hours or more?.....1 2 3 4 5

6. How often do you encounter a delivered meal that is not properly packaged (for example: the lid is not on all the way, the lid is cracked, or the packaging is torn or punctured)?.....1 2 3 4 5
7. If you circled 1, 2, 3, or 4 on question # 6 above, how often do you eat a delivered lunch item that is not properly packaged?.....1 2 3 4 5
8. How often do you check the temperature of reheated leftovers prior to consumption?...1 2 3 4 5
9. How often do you believe your delivered lunch is free from microbiological contamination?.....1 2 3 4 5

SECTION II. MULTIPLE CHOICE

The following questions are multiple choice. Please circle the letter to the left of the answer which you believe to be correct.

10. Which of the following can carry harmful bacteria that cause foodborne illness?
- A. fresh fruits
 - B. fresh vegetables
 - C. healthy people
 - D. raw chicken breast
 - E. all of the above
 - F. none of the above

11. Which of the following foods is safe to consume after sitting out at room temperature for more than two hours?
- A. roast beef sandwich
 - B. pasta salad
 - C. marinated chicken salad
 - D. all of the above
 - E. none of the above
12. Food poisoning bacteria can grow:
- A. at refrigerator temperatures
 - B. at room temperature
 - C. both A and B are correct
 - D. both A and B are incorrect
13. Do you have a refrigerator at work that you use to store your food items?
- A. yes
 - B. no
14. If you answered yes to question # 13 above, do you believe that your refrigerator at work is operating at the proper temperature?
- A. yes
 - B. no
 - C. I do not know

SECTION III. FILL-IN THE BLANK

The following two questions are fill-in the blank. Please place your answer in the space provided or place a check next to the statement "I do not know" if you do not know the correct response.

15. Leftovers should be reheated to an internal temperature of:

_____°F

_____ I do not know

16. A refrigerator should operate at a temperature no higher than:

_____°F

_____ I do not know

SECTION IV. DEMOGRAPHIC INFORMATION

Finally, we would like to ask you several questions about yourself. For each statement, put a check next to the selection which best describes you or put a response in the space provided.

17. What is your age? _____20-24 _____35-39 _____50-54
 _____25-29 _____40-44 _____55-59
 _____30-34 _____45-49 _____60 or older

18. What is your gender? _____male _____female

19. Please indicate your main ethnic heritage:

☐ Africian-American (Black)
☐ American Indian or Alaskan Native
☐ Asian/Pacific Islander
☐ Hispanic (American Mexican)
☐ White
☐ Other

20. What is the highest level of education you have completed?

☐ less than high school
☐ high school graduate
☐ some college
☐ college graduate
☐ graduate school Please specify _____
☐ professional school Please specify _____

21. During a typical week, how many delivered meals (such as food from Westside deli, Green Gourmet or a pizza establishment) do you purchase?

22. During a typical week, how many times do you buy delivered food for the following meal times? (please place the appropriate number next to each meal time, even if the number is zero)

☐ Breakfast
☐ A.M. Break
☐ Lunch
☐ P.M. Break
☐ Dinner

23. Have you ever received information on food safety?

____ Yes

____ No

24. If you answered yes to question # 23, what are your major sources of information about food safety? (please check all that apply)

____ Friends or family

____ Television

____ Radio

____ Newspaper

____ Magazine

____ Books

____ Governmental pamphlets

____ Formal classes

____ Job training

____ Health care provider

____ Other (please specify) _____

25. Are there any problems with delivered food that you would like to comment on?

I would appreciate your comments and feedback on the length, content, and clarity of this survey. Please be as specific as possible.

Length of survey_____

Content of survey_____

Clarity of survey_____

Additional Comments_____

APPENDIX E.

**A COVER LETTER REQUESTING GREEN GOURMET
CUSTOMERS PARTICIPATE IN THE STUDY**

Appendix E. A cover letter requesting Green Gourmet customers
participate in the study

Dear Participant,

Foodborne illness continues to be a growing problem in the United States. As the number of yearly cases increases, it becomes important to determine and understand the level of awareness people have on issues related to food safety. In turn, it is equally important to determine what preventative measures can be taken to decrease the number of cases of foodborne illness.

You are one of many Green Gourmet customers that has been selected to participate in this study. In order for the results of this study to truly represent the food safety awareness of people who patronize "office catering" such as Green Gourmet, it is important that you complete the survey according to the directions. Once you have completed the survey, place it in the envelope you received it in and return in campus mail. A return address label has been included for your convenience. Your prompt return is appreciated. Also, attached is a Green Gourmet coupon to thank you for your time and cooperation.

Your answers are confidential. Your name is not required on the survey and federal law prevents the publication of results or any other use that would allow individuals to be identified. This survey is completely voluntary. But, I do hope that you will complete and return the survey, especially since the information gathered from this survey will be used to take preventative measures towards minimizing the occurrence of foodborne illness.

Results of this survey will be provided to all interested parties. If you would like a summary of the results, please put your name and campus address on the index card provided, place it in the envelope provided and return in campus mail.

This survey will take approximately ten minutes to complete. If you have not eaten a delivered Green Gourmet lunch or an office delivered lunch from another establishment within the current or past year, please do not complete this survey and simply return the survey as instructed in paragraph two above. Thank-you for your time and cooperation.

Cordially,

Deborah A. Grischke
Study Director

APPENDIX F.

A WRITTEN CONSENT FORM

Appendix F. A written consent form

WRITTEN CONSENT FORM

I represent the Department of Food Science and Human Nutrition at Michigan State University. As a representative, I am interested in having you fill out a survey so I can learn more about food safety knowledge, practices and opinions of people who use "office catering" for lunch. This survey will take you approximately ten minutes to complete. I believe that this information will be useful to food service managers, supermarkets, restaurants, schools, medical facilities and consumers.

Your name is not required on this survey. However, it is necessary to have you sign a written consent form which gives me, the study director, permission to use your answers as part of the study. After you have signed and dated this form, please return it in the same envelope with your completed survey. This form will be kept separate from the survey once it is received. All results will be treated confidentially to prevent individual surveys from being identified.

If you have any questions about this study you may contact Deborah Grischke at (517) 353-9663 (Department of Food Science and Human Nutrition).

Would you be willing to provide the following information:

1. demographic information (age, gender, educational background, etc.) about yourself?
2. answers to questions about food safety?

If you are willing to provide the above information, your signature below indicates your voluntary agreement to participate in this study.

NAME

DATE

APPENDIX G.

**APPROVAL LETTER FROM THE UNIVERSITY COMMITTEE
ON RESEARCH INVOLVING HUMAN SUBJECTS**

Appendix G. Approval letter from the University Committee on
Research Involving Human Subjects

MICHIGAN STATE UNIVERSITY

OFFICE OF VICE PRESIDENT FOR RESEARCH
AND DEAN OF THE GRADUATE SCHOOL

EAST LANSING • MICHIGAN • 48824-1046

April 4, 1991

Ms. Deborah A. Grischke
Food Science and Human Nutrition
139 Food Science Bldg.

RE: ASSESSMENT OF FOOD SAFETY KNOWLEDGE, PRACTICES AND OPINIONS OF CONSUMERS
WHO EAT OFFICE DELIVERED FOOD FOR LUNCH, IRB#90-416

Dear Ms. Grischke:

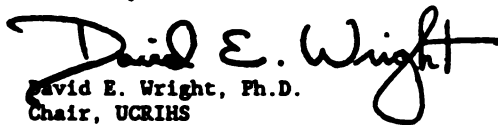
Your request for a revision to the above project has been approved. I have reviewed the proposed research protocol and find that the rights and welfare of human subjects appear to be protected. You have approval to conduct the research.

You are reminded that UCRHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRHS approval one month prior to March 27, 1992.

Any changes in procedures involving human subjects must be reviewed by the UCRHS prior to initiation of the change. UCRHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to our attention. If we can be of any future help, please do not hesitate to let us know.

Sincerely,


David E. Wright, Ph.D.
Chair, UCRHS

DEW/dao

cc: Dr. Carol Sawyer