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SCIENCE APPLIED TO FARM MANAGEMENT.

SCIENCE as it applies to farm management is, I believe, nothing but organized common sense applied to the methods of operating a farm in the most efficient and economical manner. The disposition of many unprogressive farmers to refuse to accept the demonstrated truth of the value of better methods, better ideas and a higher conception of their calling has tended to retard the advancement of science among the agricultural classes.

Years ago the work of the scientist was performed in a laboratory, where he traced out new facts from the filmy threads of increasing theories. Under such conditions it is not to be wondered that many of the discoveries of science were so vague and intangible as to be of little practical value to the farmer. So long as the work of the scientist and the farmer were so far apart, they made but little real progress toward the results which the latter-day scientists have achieved only by rolling up their sleeves and working with the farmer and making a close study of his conditions and problems.

Since the establishment of agricultural colleges and experiment stations, the scientists are in close touch with those they are serving. Science and practice are tending toward a common end. The actual field tests are taking the place of laboratory work. Thus the science of agriculture is becoming a powerful factor in the farming of today.

The mission of the agricultural college and the experiment farm is to interpret the investigations of the scientists and diffuse the knowledge that has been obtained from books and the minds of bookish scientists among the farmers. Science can be of little practical value to a farmer until it is released from the labora-

tory and set to work in the fields and among his herds and flocks. Our modern agricultural college instructors and experiment station conductors realize the necessity of co-operation with the farmers and they have enlisted the efforts of many practical farmers to conduct experiments along the lines suggested by them. This has been of great assistance in removing the indifference and antipathy which has existed for years between the agricultural scientist and the farmer. As a result of this friendly co-operation, all thinking farmers look upon the scientist as a friend who is willing to lend his aid to help him in working out many of the intricate problems connected with his business.

The agricultural college instructor and the experiment station conductor must gain and retain the confidence of the

practical farmers if they remain on terms of professional intimacy. It has required a long time for scientists to discover that they can be of little good to mankind without stepping down from their exalted spheres and taking hold of every day commercial problems.

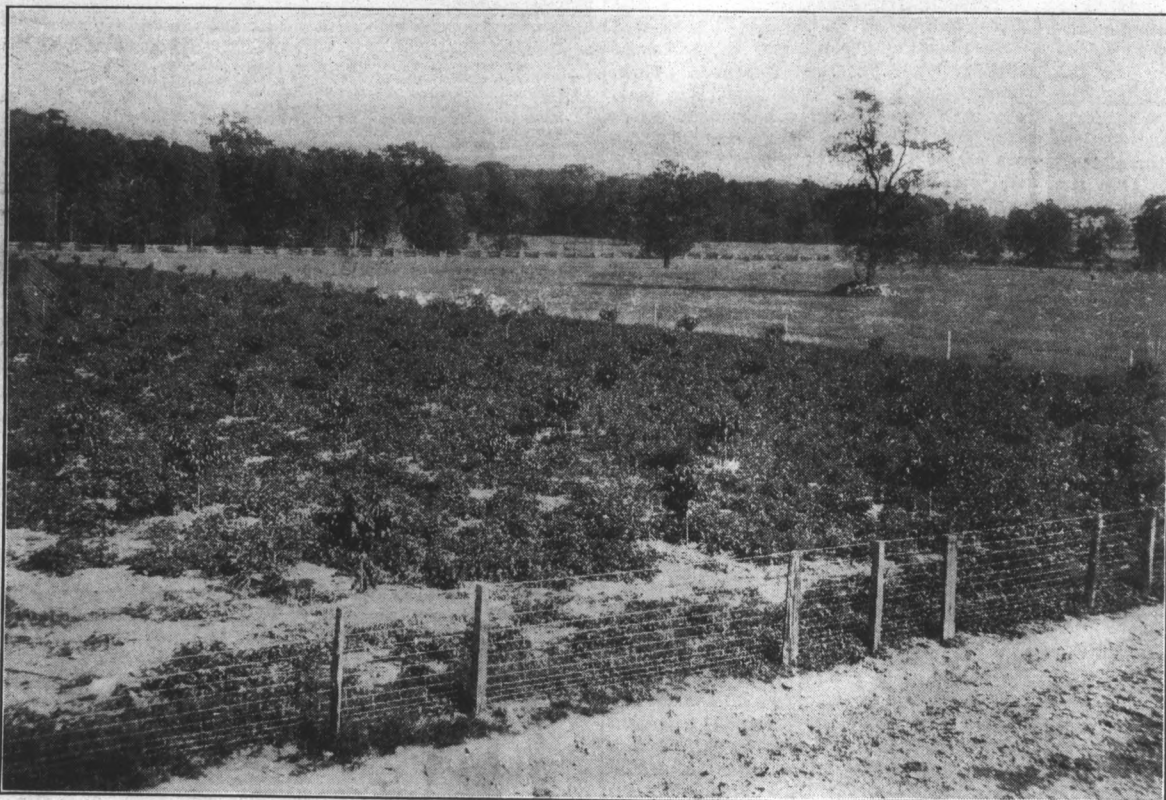
We have reached a period in our agricultural development when we must recognize the scientist as our friend and lend him our aid. The various experiment stations have for years been publishing bulletins, the results of carefully conducted experiments; and it is my purpose to explain how these bulletins have benefited the many farmers who have read them and put into practice on their own farms the various practices recommended by these bulletins, and disseminated through the agricultural press.

Various experiment stations have care-

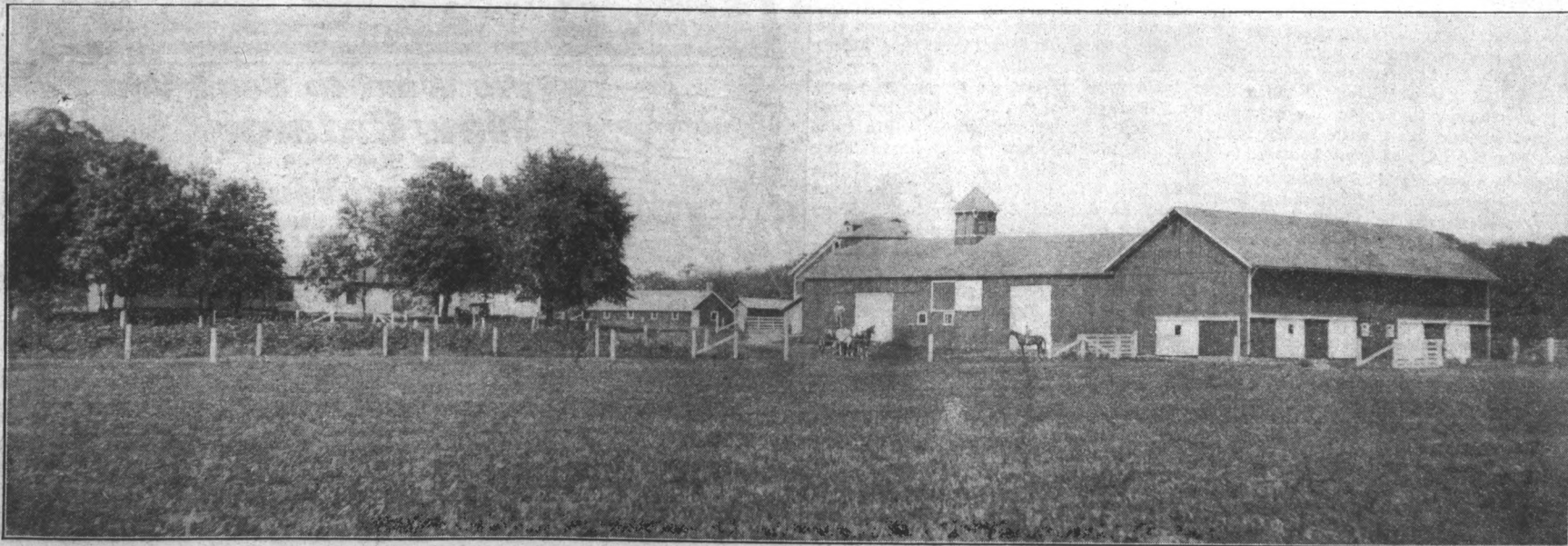
fully investigated the best methods of saving and applying manures. The foods have been analyzed and the manurial elements accurately determined, the animals have been weighed at the beginning of the experiment, the value of the product noted, the excrement carefully saved, both liquids and solids, and the value of the two elements determined by analysis. All of these facts have been carefully noted, that there might be no question as to the accuracy of the work when completed. All of these reports show that the liquids are sixty per cent of all the excrement. Further experiments show that the liquids are directly available for plant food while the solids can only become available through nature's slow process of breaking down the tissues and in time reducing them to a liquid condition, the only form in which a plant can

take its food. These investigations required a large outlay of time and money and were under the direct supervision of men who were practical and scientific and who worked hard and diligently to build up and establish facts, rather than to build up theory.

Investigations as to the individuality of the cows in our dairy herds reveal many wonderful and startling facts. Volumes of matter have been published and facts and figures have been furnished during the past few years, tending to show the value of ascertaining the merits of each individual cow in the herd, not alone as to her merits for producing milk and other products, but as to her power of digesting and assimilating her foods provided. Still, the average dairymen have ignored these teachings, so that today one-third of the dairy products of the country is the product of cows that are being kept at an expense greater than the gross income. The scientist has showed



Good Management Gives a Prosperous Appearance to the Whole Farm. Scene on Blue Gate Farm, Lapeer Co.



Farmstead at Blue Gate Farm, Home of T. B. Crawford, of Lapeer Co., which Presents the Neat and Orderly Appearance Characteristic of the Well Managed Farm.

very plainly how to find out which cows are the best producers, and if we should investigate the practices of the best dairymen we would find that they have accepted the teachings of the scientists and believe in the use of the Babcock test to determine the amount of butter-fat each cow is producing, in the modern cream separator, in sanitary ventilation, in the home-growing of more protein, in the use of balanced rations, in the use of clean dairy utensils and in the harvesting of their forage and fodder crops at a time when they contain the largest amount of digestible food elements.

Investigations to determine the relative value of the various kinds of commercial fertilizers and chemical plant-foods are annually saving the farmers millions of dollars, yet how very few farmers seem to realize the value of this work in protecting their interests from the impositions of fraudulent fertilizer dealers. Science tells us how much available plant food these fertilizers contain and it compels the manufacturers to keep their goods up to the guaranteed analysis. Science tells the farmer how to use these fertilizers so that he will derive the greatest benefit from their use, it tells him which kinds are needed for certain crops and certain soils. In order to derive the most benefit from these scientific investigations the farmer must conduct practical field tests on his own farm to find out the elements of fertility most needed to increase crop production on his farm. As soon as farmers begin to conduct field tests on their own fields they begin to derive benefits from the work that is being done at the agricultural colleges and experiment farms.

Investigations to determine the value of various feeding-stuffs and different grain foods when fed alone and in combination with the other grain foods have been of value to intelligent feeders of live stock. Science has told the farmer how to buy these feeds and feed them in combination with other feeds so that they would properly nourish his animals according to the functions they were calculated to perform. Science protects the farmer against the impositions of the millers and feed dealers who adulterate their products. It makes these dealers and millers keep the quality of their goods up to the guaranteed analysis. Can the farmer who is feeding live stock afford to ignore the teachings of science and conduct his business blindly?

No man unaided by science can tell what elements of fertility are contained in manures and fertilizers or what elements of nutrition are contained in the various kinds of food he is feeding to his stock. He cannot determine accurately which animals are turning their food to profit or which are eating up the profits made by the profitable ones. Who, unaided by science, can decide whether the soil does or does not contain the elements requisite for the perfect development of wheat and clover or cabbage. Who can tell except as he blindly infers from results what kind of manure and fertilizer are adapted to certain soils and certain crops.

Sciences Essential to the Farmer.

Zoology is a science that should be understood by all practical farmers. It teaches the habits and describes the form and function of the various organs of animal bodies, pointing out the best methods of treatment both in health and disease. Supplemented by chemistry it forms the basis of all knowledge relative to the rearing and feeding of our domestic animals. A knowledge of the anatomy of our domestic animals is the basis of veterinary science, and no man can dispute the value of veterinary science to a farmer. Animal physiology teaches us that it is cheaper to supply our animals with good shelter than with costly food to maintain the heat of their bodies.

Botany is a science that should be understood by farmers. I do not mean that every farmer should be highly educated in botany, but rather have a knowledge of the practical application of the principles of botany as applied to the various plants that grow upon his farm. It will teach him how many of our most valued fruits and vegetables were originated from plants that were deemed worthless. It teaches about the nature, growth and development of molds, mildews, rusts, smut, etc., showing that these are nothing but a collection of minute plants of a low order which reproduce themselves very rapidly by their seed-like spores.

A correct knowledge of etymology is a valuable asset to the fruit grower of today, for the loss of fruit from insects amounts to millions of dollars annually,

and were it not for science it would be but a few years before we would be driven from the fruit business entirely. Science has discovered how to combat nearly every kind of insect that has threatened to destroy the fruit interests, and I think I am safe in saying that fruit growers have a higher appreciation of the value of agricultural science than any other class of men.

A correct knowledge of physics is also indispensable to the farmer of today. He needs to be thoroughly acquainted with the principles of mechanics, and with the forces of air, water, light and electricity. The cultivation of the soil involves the constant use of power and the time is fast coming when mechanical power will replace the power from the muscles of man and beast.

The great problem of exchange and distribution as explained by political economy, should be studied by the farmer. Other branches of science might be enumerated that would prove of great benefit to the farmers. Let us disabuse our minds of the idea that there is any conflict between the principles of science and their application upon the farm. All agricultural progress is the joint work of theory and practice. Science and art, theory and practice, have been and must continue in the fullest harmony. Any farmer who will enter some of the simple recesses of science in any of the departments of agriculture, with the determination of succeeding will find so much that is new and wonderful that a desire for knowledge will lead him into chambers, where the broad light of research and study will reveal many hidden mysteries of nature and fully explain the necessity of the scientific interpretation of her laws.

New York.

W. MILTON KELLY.

ANOTHER FAVORS SMALL POTATOES.

On seeing the items by Mr. Lillie and others in regard to raising potatoes, I notice that some criticised Mr. Lillie for planting little potatoes for seed. Now, if Mr. Lillie means little ones, like walnuts with the shucks off, I can't agree with him either; but if he means small ones about the size of a hen's egg, or a little smaller, but of a uniform shape, I would stand by Mr. Lillie every time.

Now I will give some of my experience in potato growing. I have tried almost every way that a person could think of. In 1909 I planted 34 inches apart each way on one year old clover sod without any kind of fertilizer or manure. I harrowed the ground three times before I planted potatoes, using seed of about egg size, cut in halves, and planting with pipe planters. I finished planting the 24th of June. I dragged them once and cultivated them twice, twice in a row, and then went through and pulled out what weeds were left. I did not have to use Paris green at all. These potatoes yielded 125 bushels per acre, which I consider a small yield.

In 1910 I plowed the ground, which was a two-year-old sod, about two weeks earlier. It being near the barn I had fed my cattle fodder corn over portions of the field through the winter. I also had a few loads of manure which I spread quite thinly over part of the field. I harrowed three times before planting, which was done June 23-24. I dragged them twice before they all got through the ground and cultivated them three times with a two-horse cultivator, straddling each row and pulled the scattering weeds by hand. The seed was sorted from the potatoes which I raised the year before which were about the size of an egg, or a little smaller, but as perfect in shape as I could get them. I treated them for scab and planted one whole potato in a hill, 34 inches apart each way. They yielded 190 bushels per acre, and if the field had all been treated with manure would have yielded 200 bushels. They were not bothered with bugs at all.

So much for small potatoes, which I will plant again in 1911, but a few inches closer together, and if possible raise the yield from 25 to 50 bushels per acre.

Montcalm Co. E. M. WOODMAN.

Catalogue Notices.

Aspinwall Potato Machinery, manufactured by the Aspinwall Manufacturing Co. of Jackson, Mich., is fully illustrated and described in the 1911 catalogue just issued by this company. Their line includes potato planters, seed cutters, sprayers, sorters, etc.

A handsome art calendar for 1911, sent by the Michigan Agricultural College, of East Lansing, Mich., depicts, in beautiful color plans, many of the college buildings and numerous scenes on the campus.

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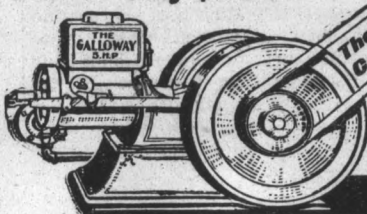
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SMALL POTATOES FOR SEED.

I was interested in what friend Lillie says about his potato crop in the issue of Dec. 3. Seventy-five or 80 bushels of small potatoes in 600 isn't so bad considering that he probably planted small seed as he says he intends to do next year. Honestly, friend Lillie, my experience teaches me that you need not expect to reach the yield you long for until you mend your ways in seed selection. I suppose, of course, you went to your corn crib and picked out all of the little, soft, measly nubbins and have them on hand also for next year's corn planting.

Barry Co.

J. S. CHANDLER.

It is very evident that J. S. C. hasn't been a constant reader of The Farmer for any length of time, because, when I planted potatoes last spring, I explained why it was that I selected small potatoes for seed and told at that time that I intended to keep on planting small potatoes until, by experience, I found that I ought not to. For his benefit, I will go over this subject again briefly. Mr. Jason Woodman, of Van Buren Co., is considered to be one of the best potato growers in this state. I know Mr. Woodman well, was in college with him, and I have a great respect for his opinion. He does a considerable amount of Farmers' Institute work in this state and he has told all over the state that he has been growing his potatoes late years from planting the small potatoes, and his success, he thinks, is largely due to the fact that he has selected the small potatoes for seed; consequently, J. S. C. will find out that this planting of small potatoes is a plan that has been thought out and has been given some thoughtful consideration, and I think when he compares it to going to the crib and picking out the smallest nubbins and measly looking ears of corn for seed, that the case is not parallel and has no bearing whatever.

Mr. Woodman says that his average yield of potatoes since he began to plant small potatoes has increased. You know for years we have been told that the way to select seed potatoes is to dig the field and then go over it carefully before the potatoes are picked up and select seed potatoes from the hills that give the largest yield, the largest number of potatoes per hill, and while I think we will all agree that this is the best plan, there isn't one farmer in 50 that ever does it. It's too much trouble to keep the hills all separate. The majority of the potatoes are dug with a digger, so that it would be impossible to select out the very best hills in this way. Now, one point is to be considered in the growing of potatoes; two-thirds of the potatoes that are grown in this vicinity, at least, are too large to be really marketable. Half of my potatoes that are in the cellar are too big, and I have talked with a number of farmers just lately about this and they all have the same complaint, that their potatoes are larger than they ought to be. A potato ought not to be larger than an ostrich egg, or a nice-sized apple. People don't like to buy great big potatoes that are as big as your two fists, or bigger. Many times they are hollow, they don't handle well, they don't look well, people don't think they are of as good quality, even if they are, and consequently, the up-to-date potato grower is trying to raise as many potatoes as he can of the proper size for market. Now, Mr. Woodman's theory is, that when you select out the small potatoes, you are really selecting the potatoes from the hills which contain the largest number of potatoes. Don't that look reasonable? The big potatoes come from the hills containing only a few tubers. If you have a hill containing a great number, they are most always medium size, or smaller size, consequently this is selection, and the best kind of selection, to obtain the end that we are working for, the largest number of, or largest yield of marketable potatoes. J. S. C. comments on the fact that I have about 80 bushels of small potatoes out of the 600, which needs a little explanation. The 80 bushels are not all small potatoes, some of them are too big to plant. The men were not careful enough in picking them up. We went over the ground with a spring-tooth harrow after the main portion of the crop had been dug and then picked up a quantity of small potatoes and also some big ones. Now, these were all put into the pit and buried for seed potatoes; consequently, there would be less than 80 bushels and this would add some more to the marketable potatoes as well.

I want to say that I am pretty conservative in my opinion and that I studied this question over pretty carefully after I heard Mr. Woodman lecture on this and after talking with him, I became convinced that he was on the right track,

especially after his assurance that he has planted the small potatoes now for a number of years, with most excellent results. The result which he has produced is, that he gets a larger yield than ever before, raising almost 300 bushels of potatoes to the acre on his entire field last year, and besides the potatoes, a larger amount of them are of the proper size. He doesn't have such large potatoes as he used to raise and he only gets about enough small potatoes out of his entire crop for his seed the next year. This is the reason why I have planted small potatoes for seed.

COLON C. LILLIE.

UNFAVORABLE EXPERIENCE IN THE WINTER HAULING OF MANURE.

I have read with interest the articles which have appeared in the Michigan Farmer from time to time about winter hauling of manure. The results the writers have secured as well as their theories have been different from mine.

During the winter of '98 and '99 I hauled out my manure as fast as made, onto a field not more rolling than necessary to give good drainage. Not much snow fell that winter and the ground froze deeply. Heavy rains came in the spring before the ground thawed and I think the soluble part of the manure slid down into my neighbor's marsh. Anyway I never saw any benefit from it in the succeeding crops.

During the winter of '07 and '08 I again spread manure on the same field this time on deep snow but with no better results. I took pains that spring to be at the lower edge of the field when the thaw came and the shade of the water that was leaving my farm certainly gave me a pain.

Other times on the same field when I have spread the manure early enough in the fall or late enough in spring to give chance for the soluble part of the manure to be washed into the soil when there was no frost I have had most satisfactory results. Crops have been doubled where the spreader went. But I get best results by spreading manure with spreader on corn stubble and fitting ground with spring-tooth for oats and clover seed. By this method I get a good yield of oats and am almost sure of a clover seeding where the spreader goes.

My theory of it is this: As the ground freezes capillary attraction continues to bring up moisture to the freezing line where it freezes, filling the pores of the soil and sealing it so manure water can not soak through, and then, as is often the case, a rain or partial thaw of snow, followed by cold, covers the ground with ice, double sealing it and making it as impervious to water as glass.

Then, if manure is spread on snow the color of the manure will cause it to absorb heat and become soaked and at the same time melt its way to the bottom, ready to give up its soluble parts to be carried off in the first water that starts in a thaw. The ice seal remains on the ground till the snow water is gone, and with it what is sometimes all the profit we get from feeding.

Jackson Co.

L. B. BENTON.

GOLDEN OPPORTUNITIES IN THE NORTHWEST.

The Dakotas, Montana, Idaho and Washington offer golden opportunities for the farmer, the business and the professional man. Towns recently established along the new Chicago, Milwaukee & Puget Sound Railway in these states have had a phenomenal but substantial growth. These new towns offer good openings in many lines of business. Adjacent to this new line are thousands of acres of good agricultural land awaiting development and in Montana a 160-acre or 320-acre government homestead can still be secured. THE CHICAGO, MILWAUKEE & ST. PAUL RAILWAY during 1911 will offer very low round-trip fares to points in the Northwest, affording the homeseeker an excellent opportunity to visit and investigate this new and undeveloped country. For descriptive literature, fares and dates on which reduced fare tickets will be on sale, write F. A. MILLER, General Passenger Agent, Chicago. (153)

Has Read The Farmer for Twenty Years.

T. B. Halladay, Norvell, Mich., writes: "Enclosed please find check for the Michigan Farmer for five years, and the Roosevelt book. I have been a subscriber of The Farmer for 20 years and probably shall be as long as the paper is published in the interests of Michigan farmers, and may as well order the paper for five years and not have the matter to think of further."

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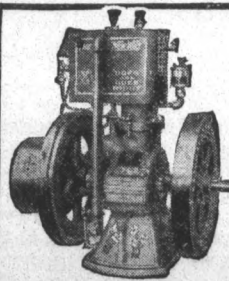
\$225 an Acre from Potatoes

Early potatoes are one of the best-paying crops raised in Southern Alabama, Western Florida, Tennessee and along the Gulf Coast. Good prices are always obtainable and demand for same beyond the supply. Read what a farmer at Summerdale, Ala., has to say on this crop:

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LIVE STOCK

FEEDERS' PROBLEMS.

Feeding Pigs and Shoats.

I have carefully watched the columns of the Michigan Farmer but can find nothing which seems to answer my query. My four-months-old shoats are rough and long-haired but seem to rub the hair off their bodies in spots. I can find no lice on them. They do not grow or thrive as they should. I have had but little milk for them since weaning them at five weeks of age. Feed them cooked potatoes, mixed with ground corn and oats, and a little corn. I did feed cooked pumpkins some but they seemed to not like it and ate but little when I mixed the pumpkin with feed. Do you think it is lack of milk which keeps them back? Would be glad of any information regarding feed or tonic to give them.

Montcalm Co.

P. H. H.

In feeding young pigs, and particularly fall pigs after they are weaned, it is most important that the feed be well balanced in its nutrients, palatable and easily digested. But the feeding process should be commenced early, first by feeding the dam liberally and later by feeding the pigs some supplementary feed in a yard or pen to which the sow does not have access. Then the pigs should not be weaned as young as five weeks of age, especially where skim-milk is not available as a factor in the ration. Eight weeks is young enough to wean the pigs under these circumstances, as by the time they have reached that age they should be eating considerable supplementary feed, and the weaning process will cause less check in their growth than if they are weaned at a younger age. After weaning, especially if no skim-milk is available for them, they should have a ration which contains sufficient protein to keep up a normal growth, and which contains a minimum of fiber in order that it may be easily digestible. It is also quite important that the feed be given warm in cold weather for best results in the growth of the pigs. Wheat middlings is an ideal feed for young pigs, as it contains about the right percentage of protein to carbohydrates to supply their needs in this respect, and is both digestible and palatable when mixed with warm water in a medium thick slop. Of course, a variety of grains in the ration increases its palatability and efficiency, and ground oats with the hulls sifted out can be used to advantage, as can a little corn meal or some nubbins of corn and a very little oil cake. If these more carbonaceous feeds are used with the middlings in the ration, they should be balanced up with a concentrate high in protein and easily digestible, such as tankage, fed in comparatively small quantities, or some home-grown protein feed with a little oil cake. The pigs will also need some forage for best results, such as a little bright clover or better yet, alfalfa hay, and when a little older cooked potatoes fed as mentioned in this inquiry will prove beneficial. Plenty of exercise is also essential, as is a clean, dry nest in which to sleep.

Given the conditions above mentioned it is entirely practicable to grow small pigs well without making skim-milk a factor in the ration. The writer has at the present time three litters of fall pigs fed without milk and they are good, thrifty fellows. After weaning at about nine weeks of age they were fed on a variety of the feeds above mentioned, and were insured plenty of healthful exercise by being allowed to run in a barnyard with access to a shed in which other stock is fed, and where they can root over the litter and get the coarse forage required during the day. At night they are shut in the hog house, where their pen is cleaned out and well bedded several times each week. These pigs are making a better growth than the spring litters from the same sows did at a similar age, being given more attention than seemed practicable with the spring pigs during the busy spring season. Anyone can get the same results by feeding intelligently and giving good care in the other essential points mentioned, but if only corn or corn and oats are fed with cooked potatoes it is practically impossible to get good results in feeding small pigs, unless skim-milk is available as a factor in the ration. These carbonaceous feeds do not contain as much protein as the pigs require to make a maximum growth, and as much of the starch in the feeds given cannot be assimilated on this account, indigestion, slow growth and a stunted condition is the result.

The best time to develop pigs or any young stock is right from the start, and if they have been allowed to become stunted in growth they will not afterward

make as profitable feeders or as rapid gains. They will, however, respond to liberal feeding of the right kind, and the best thing to do in a case like that cited in the above inquiry is to add some concentrate rich in protein to the ration, or a variety of them in small quantities. Some middlings can be fed at a profit to pigs of this age, even at the present high price of this grain feed, and with pea meal, cooked cull beans, or in fact almost any available feed that is comparatively rich in protein, fed with the corn and cooked potatoes in liberal quantities, these pigs should make rapid and profitable gains.

The dry bed and exercise should not be neglected, as they are important factors in the comfort of the hogs, and hog comfort makes for profitable pork production. In some cases where the hair shows an unthrifty condition it is caused by lying in a damp nest, or from being allowed to lie in a manure pile which is heating from fermentation, in which case the trouble can be remedied by removing the cause. In other cases unthriftiness is caused by internal parasites. These require treatment for best results, although they are always less troublesome in well fed individuals, especially where well fed from the beginning. Regularity in feeding is an important factor in pig feeding not mentioned above. In fact, the question of good feeding is quite as important as that of good breeding in the results secured from the keeping of any kind of live stock, and is the first question which should be studied and mastered by the farmer who would make the most of this important branch of his business.

Whey as a Feed for Horses.

Please tell me through the columns of your paper whether whey is a good drink for a horse.

Lake Co.

SUBSCRIBER.

Whey is an exceedingly thin food although it has been found of value in the feeding of pigs, calves and even cows where fed under sanitary conditions, but it must be fed in clean troughs and before it develops too much acid. Under favorable conditions, eight to 12 lbs. of whey has been found to displace about one pound of grain in the ration for these animals. But the horse is an animal with a small stomach and is more subject to digestive derangements, for which reason a thin, acid feed like the whey usually available at a cheese factory would not be suitable feed for him, even if palatable and readily consumed, which it would not be by the average horse.

A CONCRETE SUPPLY TANK.

The following plan was followed in building a concrete supply tank which has been in use in this community for several years and has given entire satisfaction. This tank keeps water cool in summer and it does not freeze in winter. Any person having a slight elevation of land near their buildings may have one. An elevation of a few feet will work satisfactorily, the higher the better, but if the bottom of the tank is two feet higher than the mouth of the hydrant the system will work all right. The tank is made about six feet wide by 10 feet long and four feet high, outside measurements, with six-inch bottom and sides, using small stones with the cement. A form for arch is put in and the tank arched over, leaving a manhole 18 inches square, with a cement block made to fit the hole and a large ring inserted so it may be lifted out and in by a man; it should be made too heavy for a boy to lift. All piping should be done before the tank is built, the service pipes to come up through the bottom of the tank. The pipe running from well as inlet may be ¾-inch, with a check valve at well. The outlet pipes should be two inches from tank to the divide where two or more pipes may connect, running to hydrants wherever wanted. The pipes from the divide should be one inch in size and inch hydrants used for good results. All pipes should be placed below the frost line. When complete the whole tank should be covered with dirt to keep it from freezing. Should the hill be high enough the tank can be nearly buried in the ground, the hole serving for an outside form. Hydrants may be placed wherever water is needed.

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W. G. BOYD.

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WHAT GRAIN TO FEED WITH SKIM-MILK FOR CALVES.

What is the best grain to feed young calves with skim-milk, and how should it be fed for best results? P. D.

Whole milk is a perfect ration for young calves. It contains the proper proportion of protein and carbohydrates to make a complete ration. But when we skim the milk, take out the butter-fat, then it makes it a one-sided ration, it is no longer a balanced ration. It contains protein in excess of the carbohydrates; consequently, to have the calf do well, we want to put in some food cheaper than the butter-fat, yet which contains fat or carbohydrates, and we want the fat because fat is more easily digested than sugar or starch, which will be a substitute for the butter-fat removed. Now, oil meal is not the proper food to feed, because this has been treated the same as we treat whole milk when we skim it and take out the butter-fat. The flaxseed had the oil removed from it for commercial purposes, the residue, or the linseed meal is rich in protein, but not rich in fat. Now when you mix these two feeds together, you do not make a balanced ration for the calf.

Wheat middlings do pretty well, but they are not rich enough in fat to take the place of the butter-fat removed. They, however, mix fairly well with the milk and are the next best food that I know of, but the very best food is ground flaxseed meal made into a jelly. Take the flaxseed before the oil has been removed from it and get it ground. You can buy this on the market. It costs now about \$5.00 per cwt. Now this flaxseed meal, before the fat is removed, contains about 30 per cent of fat. Put some of this into a kettle

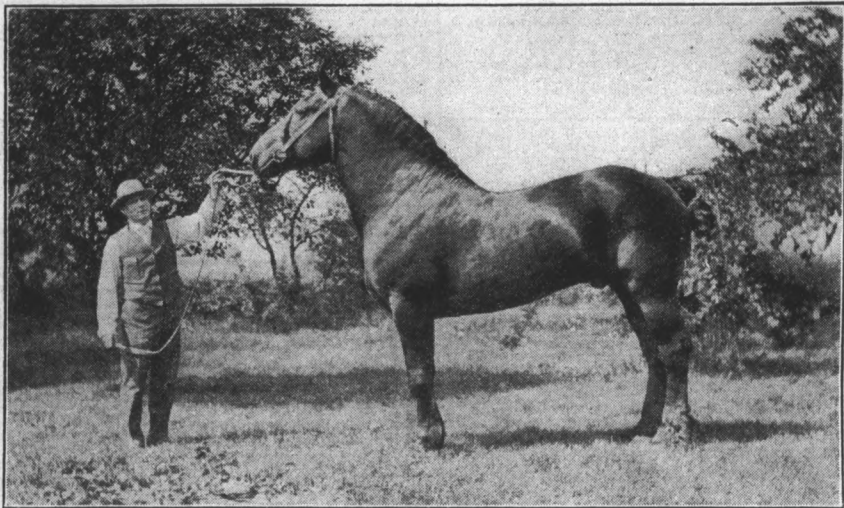
regular feeding sometimes will cause indigestion and scours. If you don't feed too much, if you feed regularly, and if you feed the milk always at the same temperature and use flaxseed jelly, I don't believe you will have any trouble with indigestion. Consequently, will have no trouble with scours with your calves.

COLON C. LILLIE.

THE PURE-BRED VS. THE GRADE SIRE.

The real value of a sire does not depend entirely upon his appearance in the show ring or outside of it. Really the only test of a sire is his get. If a pure-bred stallion does not get good colts his value as a sire may not be as great as that of some grade; but this condition of affairs will seldom occur. Through breeding for certain characteristics for several generations, the average pure-bred horse acquires that prepotency which enables him to transmit his characteristics to his get, and when using such an animal it is altogether likely that your colt will have all the good points of his sire. The best looking sire is not always the most valuable. It is the quality of his colts that makes him worth what is paid for him. Although the grade may be an excellent individual it is exceedingly unlikely that those good points will be transmitted to his get.

Here in our locality we have two horses that as individuals go do not differ greatly. A colt from one, a grade, costs \$10, and from the other, a registered animal shown in the accompanying cut, \$20. One year a certain farmer bred a mare to the grade and sold the colt as a three-year-old for \$150. The next year he used the



The Pure-Bred Sire of Good Type and Conformation Should Always be Chosen.

of water, heat the water to a boiling point and stir it a little. This will make a sort of a jelly. It will only take about a pint of it in a kettle full of water to make a jelly as thick as can be handled nicely. Now every time you feed the calves put a little of this jelly in the skim-milk, which will take the place of the butter-fat removed. This helps balance up the ration, so that the calf gets a balanced ration. I know of no other food that can be bought that will take the place and answer as well as this to feed young calves, and I have experimented all my life upon this very proposition, finding nothing equal to flaxseed meal jelly.

However, you might get scours with your calves even if you feed flaxseed jelly if you feed too much skim-milk. Don't feed any more skim-milk than you would whole milk. You may think this is poor advice, because skim-milk is so cheap. But remember, skim-milk is an unbalanced food and you don't want to gorge the calf on an unbalanced food. If you do you have digestion troubles and that leads to scours. I don't feed my calves over five pounds of skim-milk to a feed. That's all the whole milk I feed them and why feed them any more skim-milk as long as I put in flaxseed jelly to take the place of the butter-fat which the separator has removed. Feeding excessive quantities of skim-milk is generally the cause of indigestion and scours in calves. Then again, the calf should be fed warm milk, especially when he is young. If you take the milk direct from the separator, if you skim it at home on the farm, this is sufficiently warm so that it will cause no trouble. If the milk gets cold, then it ought to be warmed before it is fed to the calf. Then again, calves ought to get fed regularly. You ought to feed them about the same time in the morning and the same time at night. Ir-

regular feeding sometimes will cause indigestion and scours. If you don't feed too much, if you feed regularly, and if you feed the milk always at the same temperature and use flaxseed jelly, I don't believe you will have any trouble with indigestion. Consequently, will have no trouble with scours with your calves.

OHIO. CLYDE A. WAUGH.

THE ABSORBENT QUESTION.

Noticing the inquiry of A. L. D. in your issue of the 17th, would like to state our experience. A year ago found us with 20 head of cows and young stock, and all the bedding on hand consisted of a small stub of a straw stack, containing possibly two tons. We conceived the plan of running this straw through the silage cutter, cutting it in one-inch lengths and blowing it back into an empty hay mow. This we found to be a perfect absorbent, lying as it does close to the floor. Our cattle kept cleaner and the quality of the stable manure was greatly improved, being in a condition to become more quickly incorporated with the soil. We were so well pleased with the experiment that we will continue to chaff the bedding.

Washtenaw Co. W. R. SCADIN.

The experienced herdsman or shepherd always provides his animals with an abundance of salt. The best way of providing it is to keep it before them at all times, so they may help themselves. In this way they will adjust their consumption of salt to their needs, and the digestive derangement which occurs where they are starved for this bodily need for a time and then gorged with it, will be avoided. An adequate and wholesome water supply should, of course, also be available.

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MANAGING THE STOCK FARM.

Probably no other class of specialists in agriculture have given as much attention to economy in farm management as have the large class of stock feeders, including breeders of pure-bred stock for the improvement of the herds and flocks of meat-producing animals of the country. This is true for several reasons, one of which is the fact that they have been obliged to compete with western producers who have operated on cheap lands or had access to the free range, and successful competition under these conditions necessitates good management all along the line. But the fact that examples of marked success along this line of production are perhaps more numerous than are examples of similar success in other lines shows that good management will accomplish wonders in any department of farming, and is also an indication that adverse conditions are rather a stimulus than a handicap to the capable man. This being true, the average farmer will be benefited by a close study of the methods which he will find to prevail with considerable uniformity upon the average stock farm, whether the same is a breeding or feeding plant or a combination of the two.

The first thing that will be noted in a study of those methods is the fact that the manager of a stock farm invariably has faith in his business. He is not afraid to put his money or credit, as well as his brain and his industry, into it. He is liberal in his treatment of both the soil and the animals under his care, and the average farm laborer will be found to have a preference for work on the stock farm if he has had experience in several lines, which shows that he is also liberal with his help. But liberality in these respects is not prodigality in any sense of the word. It is simply good business sense. Neither the soil or the stock or the men will give the farmer the best of which they are capable unless liberally treated.

But good business sense requires economy in the expenditure of time, and time is money on the farm as elsewhere. Liberality in feeding and caring for the soil is economy of time in the production of the required amount of feed for the stock which it is desired to keep. It also means an economy of time in the labor expended in growing that feed, as it costs little more in labor to grow a maximum than it does to grow a minimum crop. Liberality in feeding the stock means economy of time in bringing them to maturity, and a consequent saving in the "overhead" expense of production. Liberality with the farm help means greater efficiency when at work and a consequent economy of time in the accomplishment of any given task, since the best help can be commanded by liberal treatment.

In fact, economy of time is the keynote of success on the stock farm, given, of course, the understanding of the problems to be met which is essential to successful management of such an intricate business. Here the manager of the stock farm will generally be found to excel. He has good teams and good equipment, so that the work in the field and on the road in the hauling of feed and farm products may be done with the minimum expenditure of time for the men employed. He has the most improved labor-saving devices for the handling of the feed and manure. He plans to have the necessary work well distributed throughout the year so as to keep his men constantly employed at productive tasks. His methods of growing and feeding and harvesting his crops will be found to be so planned as to economize time and energy. In fact, this is the one thing in which the successful manager of the stock farm will be found to economize, and it is the only true economy in the conduct of a farm. It is the economy of thrift, rather than the parsimony of the soil robber who is so common, and who cannot bear to see a spear of grass go back on the land, and who is not liberal enough to feed his stock for a maximum growth except as nature feeds them on the luxuriant grass of the spring pasture. But the grass will not grow as luxuriantly for the parsimonious soil robber as for the liberal-minded stock farmer. The one markets the fertility of his farm without making any adequate return to the soil while the other treats his soil liberally and economizes only in the expenditure of time and energy, and in their product, the fruit of labor for which we are all working, to the end that we may be enabled to enjoy a greater measure of the good things of life.

VETERINARY

CONDUCTED BY W. C. FAIR, V. S.

Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. Many queries are answered that apply to the same ailments. If this column is watched carefully you will probably find the desired information in a reply that has been made to some one else. When reply by mail is requested, it becomes private practice, and a fee of \$1.00 must accompany the letter.

Sore on Top of Neck.—Ever since last summer one of my horses has been troubled with a sore on top of neck, but it is less sore now than it was during the hot weather. The skin seems hard and wrinkled and scaly. I am sure it does not pain him, but he makes a fuss when the collar is put on him. R. W., Ionia, Mich.—Apply one part carbolic acid and eight parts glycerine to sore parts twice daily.

Stringhalt.—I have a horse that is 15 years old which lifts one hind leg too high and I would like to know what ails him. He is not lame. A. W., Bellaire, Mich.—Your horse has a mild attack of stringhalt and as you have failed in affecting a cure with blisters and liniments you can have him operated on, but no other treatment will ever benefit him. This operation should be performed by a veterinarian.

Spinal Disease.—Last spring when I began to work my three-year-old colt he coughed and strangled some and partially recovered. He never got entirely well and seems to have only partial control of his hind parts. He has a good appetite and is in good flesh. F. E. S., Charlotte, Mich.—Give him 1 dr. ground nuxvomica at a dose in feed three times a day. A recovery in such cases is doubtful.

Spasm of Larynx.—I have a pig that takes fits when it commences to eat, but after struggling a minute or two gets over the attack quickly. C. H., Jonesville, Mich.—The cold swill or cold food produces a spasm of larynx of throat, choking the pig. Feed warm food and hot swill.

Partial Dislocation of Stifle.—Lice.—I have a two-year-old colt that has spells of stiffness and I am unable to tell what ails him. P. D., Monroe, Mich.—Apply cerate of cantharides to stifle joint three times a month. For killing lice you will find nothing better than a decoction of stavesacre seed, using ¼ lb. to the gallon. To make this mixture drop the crushed seed into a gallon of boiling water, let it simmer for two or three hours, strain and add water to make the original gallon. It may be necessary to apply it more than once.

Bone Spavin.—I have a mare 12 years old that has a bone spavin on each hind leg and I succeeded in killing the lameness with a spavin remedy which I used last summer, but was told the same remedy would take off bunches but the medicine being strong might kill the nerves and do harm. Now I am writing to get your views before doing anything more for her. W. B., Flat Rock, Mich.—If I owned your mare I would leave her alone. When a spavin causes no lameness it is folly to treat it.

Indigestion.—I have a nine-year-old horse that is in an unthrifty condition; he must itch some for he bites himself and has a few sores on his legs. I forgot to say the hind legs stock and he is fairly well fed. N. S., Mason, Mich.—It is possible that his teeth need floating; if so file off the outer edges of upper grinders and inside of lower, but don't file off too much. Give him a tablespoonful of the following tonic and condition powders at a dose in feed three times a day: Equal parts gentian, nuxvomica, fenugreek and rosin.

Cow Gives Bloody Milk.—A heifer came fresh July 1; soon after she commenced giving bloody milk from one fore quarter; thinking perhaps she bruised her bag in some way I waited for some time, expecting her to get well, but she did not; then our local veterinary treated her for several weeks, but failed to help her. Now both fore quarters are wrong. The heifer has good care, a warm stable, plenty of bedding, good feed, and is carefully milked. J. D. B., Leslie, Mich.—Dry her and she will perhaps be all right when she comes fresh. It is possible that she has blood vessel trouble and if so she will always be inclined to pass some blood with the milk.

Bruised Udder.—One of my cows jumped a fence, at which time she bruised one quarter of udder; since then I have been unable to get more than a quart of milk out of it and occasionally the milk is of a reddish color as though mixed with blood. H. C., Ypsilanti, Mich.—Apply one part tincture of arnica and three parts water to bruised quarter three times a day and bed her well. It may be necessary to use a milking tube.

Mange.—My cattle are troubled with a skin ailment and the hair around eyes sheds out, but the skin is dry and scaly, but not raw. N. W., Dublin, Mich.—Apply one part sulphur, ½ part carbonate of potash and five parts fresh lard to sore parts of skin every two days. Salt them well and feed some roots.

Mrs. A. A., Siloam, Mich.—See remedy for spasm of larynx this column.

Leaking Navel.—I would like to know if my mare is likely to have a colt with leaking navel, because the colt she had 3 years ago died from this trouble. J. R., Yale, Mich.—Your mare may never have a colt that has a leaking navel again, and if the colt is wrong it is a simple matter to stitch or tie the opening to prevent it.

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Herd, consisting of Trojan Ericas, Beakbirds' and Prides, only, is headed by Ezeron W. Trojan Erica, by Black Woodlawn, sire of the Grand Champion steer and bull at the International in Chicago, Dec., 1910. He is assisted by Undulata Blackbird Ito. WOODCOTE STOCK FARM, Ionia, Mich.

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Top Notch registered young Holstein Bulls combining in themselves the blood of cows which now hold and have in the past held World's Records for milk and butter fat at fair prices. McPHERSON FARMS CO., Howell, Mich.

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HOLSTEIN BULL CALF—a dandy. His dam and sires dam have A. R. O. records, averaging over 22½ lbs. butter and 544 lbs. milk in 7 days. Price only \$50. C. D. WOODBURY, Lansing, Michigan.

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Register of Merit Jerseys. Official yearly record of lot of young bulls from dams with official records of 483 pounds and upwards of butter. T. F. MARSTON, Bay City, Michigan.

Jersey Bull Calf born April 10, 1910. Dam will go in Registry of Merit this year, gave 824 lbs. milk as 2-yr.-old. Sires Dam's record 1080 lbs. milk in 10½ months. THE MURRAY-WATERMAN CO., R. 6, Ann Arbor, Mich. Bell Phone.

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For Sale—Four registered POLLED DURHAM BULLS, 10, 12 and 18 months old. All Reds. J. E. CLARK, Milford, Mich.

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Hampshire, Southdown and Cotswold Rams and ewes for sale. Prices right. THE CLOVER BLOSSOM FARM, Port Austin, Mich.

Parsons Polled Delaine Rams will add constitution and shearing qualities of your lambs. PARSONS, "The Sheep Man," Grand Ledge, Mich.

Oxford-Down Sheep—Durham cattle for sale. A. D. & J. A. DE GARMO, Muir, Mich.

Oxford Down Sheep—Good Yearling Field Rams and ewes of all ages for sale. I. R. WATERBURY, Highland, Michigan.

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BERKSHIRES—Unexcelled in breeding. Selected boars, sows and gilts. Choice fall pigs. T. V. HICKS, R. No. 11, Battle Creek, Mich.

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A FEW first class Duroc Jersey Service Boars FOR SALE. M. A. BRAY, Okemos, Ingham Co., Mich. Indpt phone

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O. I. C. Early Fall Pigs Low prices. Only 4. C. J. THOMPSON, Rockford, Michigan.

O. I. C's FOR SALE—An extra good lot of last spring pigs, either sex, weighing from 150 to 300 lbs. 1 yearling boar and 30 fall pigs. OTTO B. SCHULZE, Nashville, Mich.

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Our Big Type Poland-Chinas will make you money. They have been bred big for 20 years. If you want good stuff come to the fountain head. Aug. pigs weighing 150 lbs. \$20; Sept. pigs \$10 to \$15; Oct. pigs \$10. Pairs and trios not akin. Bell Phone, J. C. BUTLER, Portland, Mich.

Poland-Chinas—Boars ready for service; spring pigs, either sex. Write L. W. Barnes & Son, Byron, Shiawassee Co., Mich.

GREAT POLAND-CHINA HOG SALE. JANUARY 20th.

60 sows bred for spring farrow. If you want the best, attend my sale as I have the best in the state. WM. WAFFLE, Coldwater, Michigan.

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O. I. C.—Choice Bred Sows. Boars ready for service and fall pigs. From World's Fair Winners. Glenwood Stock Farm, Zeeland, Michigan. Phone 94.

12 P. C. Boars ready for service, sired by a Son of the World's Champion Meddler; dam undefeated Lady Louise. Z. Kinne, Three Oaks, Mich.

Poland-China Gilts bred for spring farrow. Fall pigs \$1 each. B. M. Wing and Son, Sheridan, Michigan.

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P. C. BOARS—Large, all right every way. Priced to sell. 7-lb. Minorca cockerels. R. W. MILLS, Saline, Mich.

Large Type P. C's—largest in Michigan. Spring pigs all sold. Order a fall pig early from my great herd and get choice. None better. W. E. Livingston, Parma, Mich.

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Large Improved English Yorkshires. The hog that makes good. Boars ready for service. Gilts bred for next spring farrow. A choice lot of fall pigs, pairs not akin. Satisfaction guaranteed. COLON C. LILLIE, Coopersville, Michigan.



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is the safest and most effective lotion or blister for ailments of

HORSES and CATTLE

and supersedes all cautery or firing. It is prepared exclusively by J. E. Gombault, ex-Veterinary Surgeon to the French Government Stud.

As a **HUMAN REMEDY** for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.



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A new, beautifully illustrated book upon cattle, hogs, poultry; other valuable information. free upon request.

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Surfeit Buds.—I have a five-year-old mare that has several small hard bunches scattered over body, but most of them seem to be on shoulders. When the little nub is pulled off the sore soon heals. I met our local Vet. and he thought it the result of an acid condition of her blood and was a hard ailment to cure in cold weather. H. S. Chilson, Mich.—Her ailment is the result of stomach and blood trouble, and if you will give a dessert-spoonful of Fowlers' solution at a dose in feed three times a day she will soon get well; groom her twice a day and feed some roots.

Indigestion—Worms—Colic.—I have a mare that is in foal; her digestion is not good; she passes some worms and is inclined to have colic. I have a remedy for colic which cures, and have given her medicine which you prescribed for indigestion and I thought it helped her; but she is not well. D. E. Athens, Mich.—Give her a tablespoonful of ground gentian, a teaspoonful ground fenugreek, 1 dr. of powdered sulphate of iron and a tablespoonful of salt at a dose in soft feed three times a day.

Warts.—I have a six-year-old mare that is troubled with warts. Her colt has a rough scab on face which appears somewhat like a wart and I have thought the colt may have come honestly by this ailment. I applied cinnamon without result. S. W. Goodells, Mich.—Warts are easiest removed with a knife and if they have flat surface apply acetic acid daily. The bunch on colt's face may be a bruise of the skin only and not a wart. Apply tincture iodine once a day. Give the mare a teaspoonful of sulphur at a dose daily for 20 days.

Thrush.—I bought a mule 12 months ago; he had thrush in all four feet, which makes him travel sore. What had I better do for him? C. G. H., Brighton, Mich. After applying peroxide of hydrogen to clean out pus, apply calomel twice a day. The feet should be kept dry and clean.

Sluggish Kidneys—Stocking.—Have a three-year-old colt that was worked some last fall; since then I have noticed his water was rather thick and cream-like and his hind legs stock. W. C., St. Clair Co., Mich.—Give him a teaspoonful powdered nitrate of potash and a dessert-spoonful powdered buchu leaves at a dose in feed twice a day for a few days, then give the medicine once a day for a few days more and later give the medicine when you believe it is needed. It is no bad plan to give every idle horse a dose of this medicine once or twice a week, just to keep his kidneys acting and prevent stocking.

Congested Udder.—My three-year-old heifer came fresh a few days ago; let calf suck her for two days then, when I milked her found both fore quarters almost dry; the hind quarters are full of milk. H. T. M., Kalamazoo, Mich.—Give her a teaspoonful of nitrate of potash at a dose in feed three times a day. Apply glycerine to udder twice a day, at the same time gently hand rub.

Ringworm.—My cows have several round, scaly bunches on skin and a dry, hard scab forms on them which does not cover with hair. W. C. C., Parkville, Mich.—Apply iodine ointment to sore parts three times a week.

Arsenical Poisoning—Worms.—I would like to have you tell me what ails my 10 weeks' old pigs. Some four weeks ago they showed symptoms of worms and I consulted a stock buyer and he told me to give them each a tablespoonful of arsenic, which I did, and in less than 48 hours 14 of them were dead, out of 40; a few days later another died and still later seven more have died and the others seem to cease growing. I opened one; it had no worms, but some of them must have had stomach worms for they crawled out of their mouth. J. A. F., Marshall, Mich.—The fluid extract of spigelia and fluid extract of senna combined given to pigs or hogs rid them of worms as quickly as any remedy I have yet tried. Pigs their age should be given 1 dr. fluid extract spigelia and 3 drs. fluid extract of senna every morning for three days and if the bowels do not move brisk give either castor oil or salts. If you gave the pigs as much arsenic as you state in your letter it is strange that any of them survived, for the dose is one to two grains for full grown hogs. Fowler's solution of arsenic contains a little over 4½ grs. to each fluid ounce, so does Donovan's solution contain the same quantity.

LIVE STOCK NOTES.

In a period of three months prices of cattle in the Chicago market have suffered a fall of from \$1 to \$2 per 100 lbs., the depreciation having been much greater in cattle of good quality than in the poorer descriptions. Killers have been eager to buy cattle that could be converted into cheap beef, and old canner cows have sold remarkably well. On the other hand, many stockmen who marketed long-fed, fat, heavy beefs lost money. Clearly, it is a period when the production of weighty steers is unlikely to result profitably, and unquestionably the extreme dearthness of beef is acting unfavorably on the sales of heavy and expensive cuts. Yearling beef, or "baby beef," is in high favor everywhere, and farmers who understand the method of producing this kind of beefs are in a position to make good profits.

There seems to be good reason for believing that cattle prices will have a reaction during the first half of the new year, for after stockmen get through selling off the half-fat, short-fed and "warmed-up" cattle, there will be smaller cattle supplies available for marketing, according to reliable advices from various quarters. Thousands of farmers have been acting on this belief and have refilled their feed lots with well-bred stockers and feeders, probably the only mistake many of them have made being the payment of too high prices for feeders. Both stockers and feeders have been bringing relatively much higher prices

than beef cattle, the cause being found in the scarcity of cattle for feeding purposes. Farmers generally have ceased breeding cattle while the ranges are fast disappearing, being converted into farms, so that they are ceasing to furnish many young cattle for feeding. The breeding herds of Texas have mostly been butchered, and the few beef calves raised have been marketed largely as yearlings, bringing more money than prime long-fed steers. The drought of two years in Texas, Arizona and New Mexico has broken up the breeding herds, and Colorado has been going out of cattle breeding, having but 20 per cent of the number it owned ten years ago. Meanwhile Wyoming, Montana and Idaho have switched over from cattle growing to the sheep breeding industry, which was found to be more profitable, and settlers have been driving out stockmen from the Dakotas.

Thousands of cars filled with live stock have been standing on the tracks recently bound for the Chicago market, but lacking enough firemen and engineers to get them in on anywhere near schedule time. The railroad officials state that their heavy increase in operating expenses caused by higher wages necessitates higher freight rates than those now existing in order to furnish good service.

The hog shortage in this country is of startling proportions, the combined receipts for 1910 at the five leading western markets, Chicago, Kansas City, Omaha, St. Louis and St. Joseph, having been about 3,000,000 head less than for 1909 and 6,000,000 less than for 1908. Every farmer who reads this should lose no time in getting busy in breeding hogs for the market. There are far more people to feed than a decade ago, and selfish considerations alone should induce more extensive breeding. Every good breeding sow, whether old or young, should be retained, and even then there will not be enough to meet the enormous requirements of the packing and butchering business of the country.

Some idea of the vast importance attached to the sheep feeding industry in the Arkansas Valley of Colorado can be gained from the statement that over half a million sheep are being fed in pens for the spring market. In that sheltered region the winter is not very severe, and while all the rangemen keep a small amount of ground corn on hand in case of a severe storm, these storms are so seldom that the loss of such sheep as are kept on the range is very small.

Government officials are in favor of establishing breeding studs to raise 2,500 horses now annually purchased by the United States government for military purposes. The government stud of American carriage horses at Fort Collins, Colorado, now numbers 71 horses, and the stud of Morgan horses in Vermont contains 30 head. The recommendation has been made recently that the government furnish the stallion service free of charge and subsidize the foal to be purchased at a fixed price when the animal is four years old. This arrangement would insure the government a sufficient supply of cavalry and artillery horses on contract demand.

American mules have proved so satisfactory in South Africa that a contract has been made for 200 head, Missouri and Kentucky mules being best adapted for that climate. A shipment of 100 mules from this country to South Africa was made not long since. Prices paid are a little under \$250 per head, and American mules of five to ten years' service in South Africa have been sold for as high as \$140.

Farmers in central Illinois have been greatly alarmed over the recent outbreak of hog cholera. Telephone, telegraph and written messages have been pouring in on Secretary Charles A. Lowry, of the live stock commission at Springfield, where the magical serum is produced, but, unfortunately, its production is greatly short of the demand. The outbreak is the worst seen in Illinois in years, and vendors of patent hog cholera "sure cures" have been doing a big business, but the state authorities do not have a high opinion of these medicines. When serum is used the hog is inoculated by means of a hypodermic injection. After a given period it is bled, and the blood is the serum which will save the lives of other hogs by preventing them from becoming infected with the disease.

With new corn selling at country stations in Iowa around 35 cents per bushel and correspondingly low prices in other parts of the corn belt, farmers generally see the importance of feeding most of their crop on the farm. Recent cash sales of corn have been made in Chicago about 18 cents lower than a year ago.

While Michigan farmers have been liberal purchasers of feeder lambs the past season, many of the big sheepmen of that state have held back. It is reported that the number of feeding sheep and lambs bought by Iowa stockmen has shown a greater increase over a year ago than numbers taken by any other state in the corn belt, but Illinois farmers were also enormous buyers. Sheepmen who are properly provided with shed shelter in the winter period have a great advantage over others. Killers make strong protests against extra heavy lambs, there being no export trade, as a rule.

Ira W. Griswold, of Wisconsin, who is an extensive feeder of western range lambs has been extremely successful during the present season. He marketed at Chicago in the second week of December three car loads of lambs that averaged in weight 91 lbs. at \$6.65 per 100 lbs. and at nearly the same time two loads that averaged 90 lbs. at \$6.50. These lambs were purchased on the Chicago market in August, when they averaged 58 lbs. A market report says: "Some of his earlier marketing averaging 100 lbs. made as high as 43 lbs. gain in 140 days, most of which time the lambs had access to pasture, rape and other soft feed, finishing up in the corn fields, but most of the gain was made on green feed."

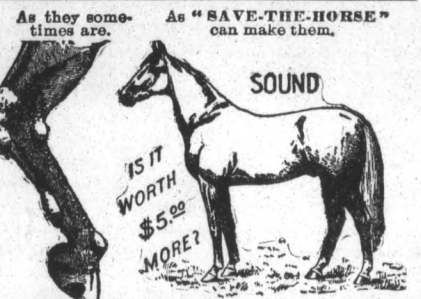
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There are some things too awful to contemplate—one is the giving of alcohol in the guise of medicine to boys.

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15 YEARS' SUCCESS. On any and every case the kinds where all other methods fail, it proves to have the potential properties and power to consummate the desired result. Whether an old, new or a serious complicated case considered beyond hope, in using "Save-the-Horse" you are not frittering away time and money.

EXPERT VETERINARY ADVICE ALWAYS FREE.

The Citizens' Bank of Atchison Co., Rock Port, Mo. — I have bought several bottles of "Save-the-Horse." I used part of last bottle on my mare, lame in hind tendon, with great results. Have had over 35 years' experience and consider it the greatest remedy I ever had. W. W. HUGHES.

STAYS SOUND: THAT'S THE BEST OF IT.

Brooklyn, N. Y., June 21, 1910. — Just a year ago to-day I bought of my dealer a bottle of "Save-the-Horse," which I used with great success. It cured my horse entirely of a bone spavin. He was so bad he could not be used without danger of my being arrested. Now it would take quite a little money to buy him. I cannot praise your spavin cure too highly. Thos. J. BAKER, 4406 16th Ave.

Denver, Colo., June 23, 1910. — I have cured one of the worst thoroughbreds on a stallion that ever was, with your remedy, and did not use quite one bottle. Certainly does the work. Since using your medicine I am sure of its merits. Respectfully, Geo. W. WILLIAMS, 1643 Marion St.

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Heave, Cough, Distemper and Indigestion Cure. The first or second \$1 can cures heaves. The third is guaranteed to cure or money refunded. \$1 per can at dealers, or express prepaid. Send for booklet. THE NEWTON REMEDY CO. TOLEDO, OHIO.

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Fourth importation for 1910 arrived August 4th. Our present lot, we believe, equals or surpasses any we have heretofore collected. More horses of bone, size and first-class quality than ever. Numerous important prize winners. Write for catalogue. W. S., J. B. & B. DUNHAM Wayne, Illinois

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REGISTERED PERCHERON STALLIONS for sale. 1 and 2 years old. Grays and blacks. West Michigan Fair winners. R. OVERHOLT, Dutton, Mich.

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BELGIAN HORSES. If you are wanting to buy Draft Horses write H. H. JUMP, Munith, Michigan.

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

RIPENED CREAM.

I have read in your paper that cream must be ripened. Please tell what ripe cream is if it has to be sour or not. Please tell what condition cream must be in to be ripe for churning. I will have 21 cows by March and we would like to know.

Muskegon Co.

W. J. A.

Ripened cream is sour cream. Most consumers of butter demand butter made from ripened cream, or sour cream. Of course, you can make butter from sweet cream, but it has a different flavor.

In up-to-date creameries, where they make ripened cream butter, they take the sweet cream and pasteurize it to kill off all the bacteria and then they introduce a pure culture commercial starter, which is milk into which lactic acid bacteria have been introduced, which works upon the milk and sours it. When it gets to a certain degree of acidity, then it is cooled down to a proper temperature and churned. Of course, the farmer can do this, but very few of them do. If one has had the proper experience in ripening cream and making butter, it is not necessary to do this. Where the farmer simply has his own herd of cows to make butter from and has control of all the conditions, he can produce milk sufficiently clean, so it would not be necessary to pasteurize the cream, and then all he has to do is to take his cream and sour it. After separating the cream, set the cream can in a cool place until you separate again. The next time you separate, cool the cream again and when it is reduced to the same temperature as the previous skimming mix the two together. Continue to do this until you have a sufficient amount of the cream for a churning. Now the cream is all sweet and it needs to be soured. Set it in a tub of water and warm it up to about 70 degrees, stir it carefully so that it is of the same temperature throughout then put it in a warm room for about 12 hours, when it will begin to turn acid, or sour. Now this is ripened cream. Most all farm butter makers now use a little starter to assist in the souring. Many of them save a little buttermilk from the previous churning, which is already sour and when they bring their sweet cream up to prepare it for churning, they simply put a small amount of buttermilk, or buttermilk left over from the the previous churning, in this cream, and then stir it up when you are warming the cream. This inoculates the whole can of cream and it will ripen sooner than if no buttermilk is used. The creamery buttermaker, of course, has Mann's Acid test to tell the degree of acidity of the cream. This test is not available to the farmer so he must tell by taste, or by smell. After a little experience one can tell by the looks of the cream whether it is of about the proper degree of acidity for churning. Churn every time when the cream has just about this same acidity, then you will make the same uniform grade of butter, which will give better satisfaction than it would if you churn part of it sweet and part of it sour.

GRAIN TO FEED WITH CORN AND CORNSTALKS.

I would like to ask through your paper what grain to buy to make a balanced ration for my cows. I have corn which I can get ground, and for roughage I will feed cornstalks, with one small feed a day of mixed hay. Will also feed one feed of roots a day.

Leelanau Co.

SUBSCRIBER.

Your roughage is deficient in protein. You have only a limited amount of mixed hay and nothing but cornstalks. Now, with your corn meal you want to mix some food that is rich in protein. Since you haven't the corn and cob meal, but simply the corn meal in this ration, I would use bran to make it a little bit more bulky. Then mix wheat bran, corn meal and oil meal, equal parts by weight, and I would feed in two feeds each day, night and morning to each cow as many pounds of this grain ration per day as they produce pounds of butter-fat in a week. For instance, if a cow is producing nine pounds of butter-fat in a week, then I would feed her nine pounds of grain a day, or 4½ pounds night and morning. You can afford to feed the cornstalks liberally. Don't expect the cows to eat up all the butts of the stalks, they will simply eat up the leaves and some of the husks and finer part of the stalks. It would be a nice thing if you had enough of the

mixed hay so that you could feed one feed a day of mixed hay, practically all that they would eat up clean. If you had this and feed the grain ration as directed, I believe your cows will do fairly well for you.

THE VALUE OF THE SILO.

As a factor in reducing the cost of production upon large and small dairy farms nothing has approached the silo. From whatever angle we may view it, we discover advantages over the old system of dry-curing and storing the corn crop for the winters' and summers' feed. The following lines will demonstrate to the satisfaction of every intelligent reader that it costs less to put this crop in the silo than in the crib and mow; and it is common knowledge that ensiling corn preserves the food elements in digestible form far better than dry-curing.

What other building can he erect for from \$225 to \$250 with a storage capacity of 100 tons? In what other way can he care for his corn crop so completely and economically? Where can he store it so that he can feed it with greater ease? And what other feed will bring him greater returns than silage? A stave silo of 100 tons capacity will cost practically \$170, freight paid. Twelve barrels of cement should be sufficient for laying up the wall or foundation. This, at \$1.40 would come to \$16.80. There will be required about 250 feet of rough hemlock, six-inch fencing, for the forms, which is later used for the roof boards. This, at \$25 per thousand comes to \$6.25. Two men should lay up the wall in one and a half days and put up the silo in three days. None of this work requires a skilled mechanic so the labor may be figured at \$1.50 per day and for the nine days' work would cost \$13.50. About 550 feet of matched lumber will be needed to build the chute to conduct the silage down from the top of the silo. This, at \$30 would be \$15. Most farmers have access to a gravel pit so that the gravel is to be had for the drawing. Two rolls of roofing at \$2.00 each and about \$5.00 for paint, I believe, covers all items of expense and totals \$230.55. I think that \$250 would certainly be sufficient for erecting one most anywhere.

The average corn crop yields about ten tons to the acre of silage so 10 to 12 acres of corn would fill the 100-ton silo. One man with three horses and a corn binder should cut this corn in one and a half days. About two pounds per acre of twine will be used. The number of teams required to draw the corn to the silo filler will depend on the distance to haul and the size of the filler, but for a haul of 40 to 80 rods and an ordinary sized filler, five teams will draw the green corn. Two men in the field to pitch and one in the silo to spread and tramp the silage will be required. The spreading and tramping of the silage as it is put in is one of the very important points for obtaining a good quality of silage, hence a good man should be selected for this job, one that can be depended on as it is not a very pleasant job and can be easily shirked. The usual rate for silo filler and power and crew is \$2.00 per hour and with no delays will very easily fill the silo in one day with the above outlined crew. Add to these expenditures \$2.00 for one-half ton of coal and we have all the items of expense connected with filling the silo. They are, six men with teams at \$1.50 per day, \$9.00; three men, two pitchers and one in silo, at \$2.00 per day, \$6.00; silo filler and crew, 10 hours at \$2.50 per hour, \$25.00; 24 lbs. twine at 10c, \$2.40; half ton of coal, \$2.00, or a total of practically \$40.00, or 40c per ton. The corn has been handled green and you have absolutely all of the crop as the leaves (the best part) have not all been blown into the fence corners.

Let us see what it would cost to cut and husk this 12 acres by hand. First, it would cost at least \$1.25 per acre for cutting. It would probably yield 75 baskets to the acre, or 900 baskets. It would take one man and team three days to draw and crib the 900 baskets of corn and two men and one team two days to draw the stalks. It would take 10 pounds of twine for tying the shocks and the bundles of fodder. So we have cutting at \$1.25 per acre for 12 acres, \$15.00; husking 900 baskets at 4c, \$36.00; seven days' work for man in drawing and storing corn and fodder at \$1.50 per day, \$10.50, and 10 pounds of twine at 10c, \$1.00—a total of \$62.50 for caring for the same 12 acres of corn by husking, as against \$40.00 for siloing it, or \$22.50 difference.

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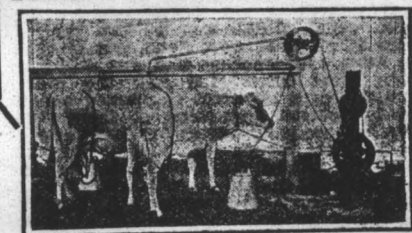
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No account has been made of team work as in filling the silo it is customary to change back and forth in the neighborhood so that it is equivalent to one's own team doing all the work and in husking by hand, of course, one's own team would do all the work.

This difference of \$22.50 in actual cash is but a very small part of the actual difference in the cost of the two systems of harvesting and storing the crop. Perhaps you want to sow the field to grain after the corn crop is off. The corn for siloing will generally be cut from one to two weeks earlier than for husking. It is all taken off in one day and the field is clear for preparing for sowing. If it is to be left for husking it cannot be cleared in time for wheat sowing as, besides one or two weeks' difference in time of cutting, the shocks will have to stand two or three weeks to cure before husking can be commenced and the average farmer will not husk 12 acres in less than another two weeks, thus making it from five to seven weeks later in getting the crop off the field and this brings it to a time of year when the weather is generally unpleasant for working in the field and more or less time is lost on account of storms, etc., and your fodder is depreciating in feeding value every day, both by exposure to weather elements and by being broken up by handling and blown away and lost.

When it comes to drawing and stock-in the fodder, where will you put it? If you put it in the barn, as it is very bulky, it will require a lot of expensive room. And besides, it will probably be fed in the barn or barnyard, if stored there, so that there will be the everlasting nuisance of the bare stalks to be disposed of as well as the loss of at least one-half of the feeding value of the fodder in them, as compared with silage when every particle of the corn plant, above the ground, is greedily devoured by the stock. If you stack the fodder it is exposed all winter long to storms and by spring is pretty poor stuff to expect stock to make milk or beef from.

So we see that as an economical and convenient means of harvesting and storing the corn crop the silo has the old method left far behind.

As for the feeding value of it, so much has been already said and written that it seems needless to say much about it here. However, when we commenced feeding silage we noticed an increase of at least one-third in our creamery returns over previous winters with the stock on dry feed, and when it came to the dry months of summer our silage was a gold mine, the cows keeping up their full flow of milk, making double the returns of previous summers when they could barely grub out an existence for about two and a half months through the latter part of June, July and August. Stock fed on silage will eat only about one-third as much hay as when kept without it, and the grain bill is greatly lessened, the stock is in better condition owing to the succulency of the silage. For young, growing stock it is unequaled and contains sufficient grain and it is also great as a conditioner and finisher for beef cattle though other grain must be fed in connection.

Silage is very good for sheep and horses also, though it must be fed judiciously to them as they have not the capacity for handling bulky foods that cattle have.

It seems that farmers are very slow in taking hold of a good thing when every silo is giving such universal satisfaction and offers so much in convenience and economical feeding. It is not a "gold brick," it is a veritable "gold mine."

Every farmer who raises corn and keeps sufficient stock to use silage fast enough to keep it from spoiling, should plan to put up and fill a silo next fall, and right now is none too early to begin to plan. As you go out to your fodder stack, or, may be you did not get your fodder all in this fall and have to go to the field for it, in either case, as you are digging it out from under the snow each day to feed your stock, think how much more convenient it would be to have it in a silo and right in connection with your manger where it could be fed without going out of doors.

And when you are cleaning out the bare stalks left by the stock in the manger, or are drawing manure in which they are mixed, think how much more economical both in point of time and feed, it would be if they were in a silo and all being converted into milk or beef by your stock instead of being there to make you "cuss" when they get loaded up on your fork.

Calhoun Co.

C. C. CURTIS.

MANURE FROM THE DAIRY COW.

The annual value of the manure from a cow is about equal to the feeding value of the skim-milk produced by her. But judging from the way these two products are handled on the average farm, skim-milk must be given a much higher rating because little of this is allowed to go to waste while, according to statistics, about one-half of the value of the manure is lost on the average farm. It is evident that on many farms the real value of manure is not sufficiently appreciated and that there is serious lack of knowledge regarding the best methods of handling the same to insure its fullest value to the soil.

The urine, as a rule, is much richer in fertilizing constituents than the dung, containing more than half the nitrogen voided by the animal. The fact that the larger portion of the fertilizing constituents is found in the urine emphasizes the importance of carefully saving all of this portion of the voidings.

To save all of the urine or liquid manure it is necessary in the first place to have water-tight gutters and floors. Nothing is better in this respect than concrete. The next requirement is a sufficient amount of clean, porous bedding to absorb all of the liquid. Straw, especially if cut up somewhat, makes excellent bedding material. It is clean and holds a great deal of liquid. The same may be said of cut corn stalks. It will also pay to use some powdered absorbents, like ground phosphate rock. This material not only absorbs moisture but also absorbs, or "fixes," ammonia as it is liberated from the manure. The use of ground phosphate rock is especially commendable because manure is somewhat deficient in phosphoric acid, a valuable fertilizing material.

Losses of manurial constituents may be occasioned by leaching, and (2) those caused by bacterial action or fermentation processes. Where no precautions against leaching and fermentation are taken, more than half the value of the manure may be lost.

Experiments have shown that manure as ordinarily placed in a pile will lose about 50 per cent of its value when exposed to the weather for a period of six months. Every rain washes a certain percentage of the soluble manurial constituents away from the pile. That heavy losses occur in this way is evident from the dark liquor which runs off from a manure heap that has been exposed to the rain. Frequently for convenience of handling, the manure is piled close to the barn and directly under the eaves where the amount of water that pours over it becomes very considerable. Losses from leaching can be entirely avoided by placing the manure in a shallow concrete pit provided with a roof. No farmer can afford to be without a covered storage for manure.

Manure is a medium exceedingly rich in bacterial life. Many species of bacteria are at work decomposing the organic matter, breaking up higher compounds into lower ones and accomplishing what is ordinarily designated the rotting of the manure. In the fermentation or rotting process the nitrogen compounds are broken up into ammonia which readily escapes from the manure pile. Evidence of such escape is found in the ammoniacal odors which emanate from loosely packed manure, like horse manure. Ammonia is a nitrogen compound and the nitrogen is the most valuable part of the manure.

Fermentation of manure can be materially reduced by packing the manure tight so as to exclude the air as much as possible.

While the loss of ammonia from the manure heap can be materially reduced by tight packing, more or less is bound to be formed under the best packing possible. The prevent the escape of this ammonia it is necessary to add to the manure something which will "fix" or hold the ammonia. Ground phosphate rock already mentioned, excellent for this purpose. This material should be added to the gutters in the stable so as to get the benefit of its absorbing as well as its nitrogen-fixing properties.

If the manure can be hauled upon ground where there is no danger of its being washed away, the most economical plan is to spread it upon the land as quickly as it is produced. Under such conditions there will be practically no loss from leaching and fermentation and, moreover, what is of no little importance the manure is handled with the least amount of labor. As a rule, it is safest to spread the manure upon some growing crop.

JOHN MICHELS.

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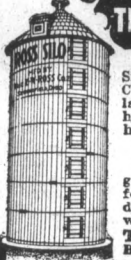
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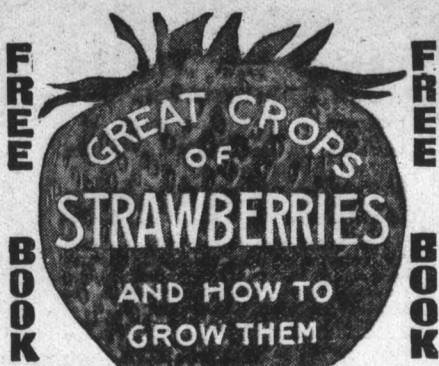
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HORTICULTURE

FARMER'S HOME CANNING.—No. 1.

(This is the first of a series of six articles by Mr. Raviler, on a new but very promising line of work for farmers, fruit growers and gardeners. The articles are copyrighted by the author.)

No branch of farming is so much neglected as the preparation of raw fruits and vegetables for market. The whole object seems to have been to supply the immediate demand for fresh goods; and when consumption is small compared with production the farmer is often compelled to sell at a loss. For this reason it has become customary in some localities for farmers to contract their fruits and vegetables to canning companies. In many cases the contract price has been much less than the actual cost of production, and in no case have I ever heard of the contract price being high enough to pay the farmer a profit on an average yield. So long as good yields occur the farmer seems satisfied and continues to contract, but with the price of other farm produce advancing it will soon be discovered that it does not pay the farmer to grow fruits and vegetables under present contract prices and some other method of marketing these goods will be necessary if the farmer is to receive his rightful share of the consuming price.

This can not be accomplished by the farmer disposing of his raw material to the canning company and allowing them to make the canning profit by selling the canned goods (as many do) through a broker who receives a commission, the broker selling to the jobber or wholesaler who receive their profit for handling and selling to the grocer, and the grocer receiving his profit by selling to the consumer.

The only method whereby the farmer can secure these profits is by converting the raw material into a finished product by canning same on his own farm in tin cans and selling direct to the grocer or consumer. By so doing he can realize from \$200 to \$300 per acre for the use of his land in place of the paltry sum he now gets.

To prove the above assertion we will take the tomato for an example, and the possibilities of the farmer in canning tomatoes are no greater than the possibilities with all fruits and vegetables.

Farmers' Bulletin No. 220 of the U. S. Department of Agriculture, page 10, quotes an accurately measured yield of tomatoes in Michigan as 1,200 bushels per acre, but this was no doubt grown under very favorable conditions and it would not be wise to base an estimate for canning on so large a yield so we will take a fair average yield of 400 bushels per acre. It is true that many growers have larger yields than 400 bushels and it is equally true that some are below this yield, so that an average of 400 bushels per acre is conservative.

One bushel of tomatoes will fill 15 No. 3 tin cans, (canning companies estimate 16 cans). With a yield of 400 bushels per acre, estimating 15 cans per bushel, we would have 6,000 cans per acre, or 500 dozen cans. The market price of a strictly hand-picked tomato is not less than \$1.20 per dozen cans but we will cut off the 20 cents and say the farmer sells for \$1.00 per dozen. This will give him \$500 gross per acre. Now, out of this should come the cost of canning, (not including cost of packing and hauling to canning place), as follows:

Labor 20c doz.
Cans and labels 26c doz.
Fuel, gasoline and incidentals... 03c doz.

Total 49c doz.

This 49 cents per dozen multiplied by the 500 dozen per acre gives us the total cost of \$245 per acre for canning. This deducted from the gross income of \$500 per acre leaves \$255 for the acre of tomatoes. This income can be realized by any farmer desiring to undertake the farmers canning proposition whether it be on a large or small scale. It would pay the general farmer better proportionately than the above figures indicate, for the reason that he has annually quantities of fruits and vegetables that go to waste and by canning these he could market them in fall and winter, thereby turning a complete loss into a neat profit. Again, there are many farmers who have natural fruits growing on their farms, such as huckleberries, raspberries, blackberries, etc., for which they now receive very little; but if these were canned they

could make a good profit besides building up a business that no person could take from them.

Now let us go farther and say that in the near future the farmer will not sell all his pork and beans in the raw state, but will grow his pigs so that during the winter months he will have nice young tender pork which, with beans he has grown during the summer, and some canned tomatoes he has prepared, he can put up a "brand of pork and beans that would be the envy of the best packers. Imagine yourself a consumer, and you saw on a grocer's shelf the usual packers' brands of pork and beans and beside them the brand of a farmer—the former suggestive of a factory pack, the latter suggestive of cleanliness, freshness and purity, which would you purchase?

Wayne Co.

G. C. RAVILER.

CELERY FERTILIZER.

I would like to know what kind of fertilizer to use, if any, to correct alkali in muck. The land is new ground and will be devoted to peppermint or celery. Also, what is the best fertilizer to use for growing celery.

Van Buren Co.

O. C. G.

This query presents a peculiar situation inasmuch as muck lands are almost invariably acid, the fermentation of vegetable matter leaving the soils thus. For this reason we are inclined to the belief that our correspondent is mixed. He can determine, however, whether the soil is acid or alkali by a simple method. Secure a small piece of litmus paper of your druggist, bury a moistened piece in the soil to be tested and leave for a short time. If the paper comes out blue the soil is alkali, if red it is acid. Should the soil prove to be alkali it can be corrected in part by thorough cultivation, but the best and only means of ridding the land of a surplus of these elements which may appear in the form of carbonate of soda, sulphate of soda, Epsom salts and other forms, is by underdrainage. It is found in the west where alkali is present, that underdrainage is the only means of getting the chemicals out of the land, and irrigation is only permanently successful where underdrainage is practiced in connection with it to carry away these alkalis. Acid soils are corrected by the use of lime and wood ashes.

A good celery fertilizer must be rich in nitrogen and potash. Well-rotted barnyard manure and unleached wood ashes are excellent, but where these materials cannot be had commercial fertilizers containing a liberal amount of the above mentioned elements will aid the crop beyond the belief of the inexperienced. Nitrate of soda will furnish nitrogen and kainit, sulphate of potash, or wood ashes will furnish the potash.

PROCEEDINGS OF MICHIGAN STATE HORTICULTURAL SOCIETY.

Growing of Canteloupes.

Paul Rose, of Grand Traverse county, spoke on the above subject. The soil for growing the plants is made very rich by using much compost, working it over frequently and getting foreign material out by sifting through a one-inch mesh sieve that is worked on a frame. This is packed down well in the cold frames, and covered with a thin layer of virgin forest sand, in which the seeds are sown. If the canteloupes are to be grown under glass the plants are thinned with the weeder to one in a place. If plants are to be set in the open field, they are transplanted to five-inch wood veneer boxes, these being removed when the plant is set in the open field.

Bordeaux is used as a spray, both in the hot bed and the open field. Plants are set 5x7 feet, and machine sprays three rows at a time, spraying three to five times, the last spraying just before the melons begin to ripen being the most important. Plenty of stable manure and commercial fertilizer are used, and intense cultivation practiced. Has grown them in succession on same ground for 17 years.

In the discussion Mr. Rose stated that damping off in the hot-bed was caused by a lack of air and too much moisture. Clean sand and Bordeaux mixture will prevent it. Fertilization is not improved by planting varieties together. The striped beetle has been controlled by mixing sulphur, turpentine, and carbolic acid with road dust, and dusting on plants on a hot day, beginning on the windward side and taking the rows in succession, driving them with the wind. Has cleaned them from 130 acres in a day in this way. Beetles and blight go together, the former stinging the vines and making a

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AN ELOQUENT TESTIMONIAL.

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chance for the blight spores to enter. Paris green does not poison them well. Has not tried arsenic or lead. If cut-worms are bad, poison with leaves soaked in Paris green before planting. Mr. Sutherland uses sugar, bran, and Paris green, melting the sugar, putting it on bran, and working over so it is just moist, then working in half a pound of Paris green. This is put on right after setting plants, putting what can be held between the thumb and finger near each hill. Care must be used in watering plants not to get too much. Can grow better melons in a dry season. An average crop in Michigan is from 500 to 600 baskets per acre.

Small Fruits.

Mr. W. W. Farnsworth, of Ohio, handled this subject in his practical and interesting way. He stated that when he first attended the horticultural societies, small fruits occupied the major part of the program, now it is apples. Small fruits are desirable for the grower who must get a start, and also the one with a large family. The soil must be rich or be built up at once, for the plant must produce several times its weight of fruit, in a short time, while the tree is many years in so doing. It must also produce a crop while little nitrification is going on.

Mr. Farnsworth cleared off new ground and planted to strawberries, and in spite of the frosts and drought harvested the largest crop this year he has ever had, which fact he attributes to the virgin soil with plenty of humus. Rather strong soil with artificial, rather than natural, drainage is preferred. Have a clover sod if possible, use plenty of stable manure and plow in fall or early in the spring, and plant early in spring. Plants are taken from new beds, and set with a plant setter on ground thoroughly prepared, and the soil is well packed about the plants. Roots are clipped to $\frac{3}{4}$ inches before setting, and care taken not to let plants dry out. Cultivation begins as soon as plants are set and continues through the summer whenever a crust forms, and plants are hoed often enough to keep down the weeds, three times being better and cheaper than once. Blossoms are picked from newly set plants. First runners are not cut, but used to fill in vacancies. Runners are allowed to run until September, when they begin to run across the rows, when a roller cutter is put on the cultivator, and the cross runners cut. In October a narrow hoe is used crosswise of the rows, cutting out a part of the plants and leaving the rest spaced in clusters a few inches apart. This also pulls many runners across the rows where the roller cutter will get them. Rows are kept as narrow as possible, for extra plants are weeds. Beds are mulched in December with straw or marsh hay. Mr. Farnsworth has little faith in growing the mulch in the patch. The grower should select his varieties to suit his market. Mr. Farnsworth grows mostly medium season berries, like the Warfield, Dunlap, and Highland. The Columbia is a good, firm, late berry. Berries are not graded, the aim being to grow a large quantity of good berries rather than fewer fancy ones.

The currant occupied the balance of Mr. Farnsworth's attention. He thinks this fruit has not been given the attention it deserves. He grows them in orchards between the trees, and can harvest them after the cherries are picked. Has some bushes in a 15-year-old plum orchard, trees 16 feet apart, and they are still producing well. Plant in fall or early spring, setting deep, and cut new canes to six inches. Later pruning consists in taking out a few of the older canes. In the fall plow a furrow to the row or sow cover crops for protection. Harvesting is easy, as the currants do not have to be picked at a stated time. Among the good varieties are Fay, Red Cross, Wilder, Victoria.

In answer to questions, Mr. Farnsworth stated that he had used a complete fertilizer after planting strawberries, and nitrate of soda in the spring, but had not secured definite results. Solidity of fruit is not so important for his local market. Has not tried the hill system, but thinks the matted row is the cheapest method of growing a given amount of fruit. Dunlap is set 4x4 feet, while varieties like Bubach are set 18 inches by 4 feet. One hundred bushels is a fair yield per acre, 150 a good yield. Care should be taken to mix varieties to secure proper fertilization. Prefers Columbia to Aroma on his soil. Does not spray strawberries, but keeps beds but one year, and leaf roller and root rot are not troublesome.

Calhoun Co. S. B. HARTMAN.

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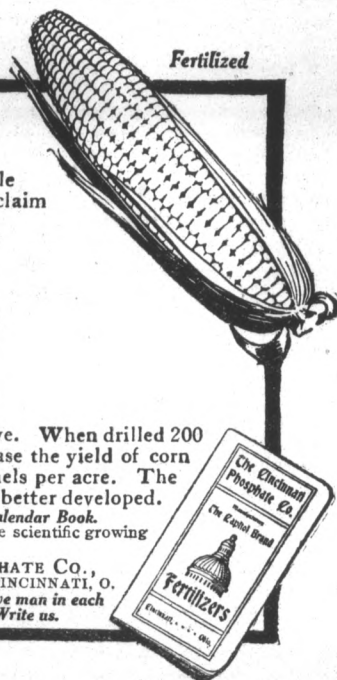
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The Lawrence Pub. Co.,
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DETROIT, JAN. 14, 1911.

CURRENT COMMENT.

The economic cycle of American agriculture exhibits some historical phases which are well worth the careful scrutiny of the student of farm management, the special subject of discussion in the January numbers of the Michigan Farmer. These historical phases overlap and intermingle somewhat, and are all familiar to every student of farm management, though perhaps not recognized as separate phases of agricultural development. The first of these, as recently catalogued by the chief of the Bureau of Statistics of the United States Department of Agriculture, is the soil robber. The soil robber in our country has been the mixed product of existing economic conditions and ignorance. During the process of the development of our vast areas of arable lands competition in production has been keen, and the sale of our surplus products which fixed the price for the whole in distant markets through devious channels of trade made the price low, so that a degree of soil robbery practiced on the fertile virgin soils which were naturally productive seemed justifiable to those who could attain a competence or even a good living in no other way. But the soil robber of today is largely so through ignorance or indifference of scientific methods of soil improvement, since we have reached and, thanks to scientific research, are passing the second stage in the economic cycle of our agriculture, the historic phase which marked the decreasing production of our soils, even those naturally rich soils which our farmers had considered inexhaustible. But, irregularly and in spots, first on the farms of the more progressive of our farmers scientific methods began to be applied, and we merged into the third of the historic phases of our agriculture, the improvement of the lands which had begun to show a decline in production, and the rehabilitation of the wornout lands which had become so depleted as to make their cultivation of doubtful profit. Better methods have gradually spread through the beneficial power of example, with the result that decreasing production has been checked, and today our lands are growing better average crops than they did a decade ago. Regarding this increase the Bureau of Statistics of the U. S. Department of

Agriculture presents the following figures: "A marked change in the production per acre of all crops appeared in the decade 1896-1905 in comparison with the mean of the preceding ten years. The production per acre of corn increased 7.7 per cent; of wheat, 6.3 per cent; of oats, 15.6 per cent; of barley, 11.1 per cent, of rye, 21.3 per cent; of buckwheat, 23.1 per cent; of hay, 22 per cent; of potatoes, 15.3 per cent; of cotton, 3.8 per cent, and of tobacco, 5.2 per cent.

"The weather and other crop conditions of the four years, 1906-1909, were not as favorable for crop production as they were in the preceding ten years, so that the production of oats per acre declined, that of hay remained stationary, and that of cotton and barley increased. In the case of other crops the mean production per acre continued to show large increases, the mean of these four years over that of the preceding ten years being an increase of 7.1 per cent for corn; 9.6 per cent for wheat; 6.5 per cent for rye; 6.6 per cent for buckwheat; 15.5 per cent for potatoes, and 9.7 per cent for tobacco."

Such, then, is the result of the beginning of the application of science to agriculture, a phase of good farm management which is emphasized in a special article published in another column of this issue. In the light of these figures, what may we not expect when such application becomes general throughout the country. Truly, the next generation will bring forth wonders in the progress of agriculture, as the past generation has in kindred sciences, and the pessimists who believe the time is near at hand when the production of the farms will be insufficient to feed the peoples of the world, will be discredited. There is in store for us still another historic phase of American agriculture, and it should be the aim of each of us to hasten the day when this phase may overshadow the others mentioned in the several communities in which we live.

That general prosperity of the farmers of the country makes for a conservative and gradual marketing of farm products is evidenced by present prices and market conditions. In the crop and market notes published in these columns frequent mention is made of the fact that farmers are marketing their beans slowly and showing a general disposition not to sell for less than \$2 per bushel. In like manner there is no crowding of the potato crop on the market at present prices which would swamp the market entirely, growers who have the tubers in their cellars evidently having studied the crop statistics for the season to an extent which leads them to the warranted conclusion that all the potatoes in the country will be needed before the early crop is available. Grains of all kinds are also marketed more conservatively than in former years, when farmers were in more urgent need of an immediate income than they generally are at the present time.

This general conservatism is in line with good farm management, since it is quite as important to sell our products wisely as it is to grow them well, and it is obvious that if all were to undertake to sell their products as soon as they are grown, a still larger percentage of the consumer's dollar would go into the pockets of the speculators and middlemen than is the case at present, and there is room for an improvement in that direction at the present time. Conservative marketing by individual farmers, acting independently, but in line with good business sense is next to organized effort along this line in the securing of reasonably profitable prices for our products, without any material hardship to consumers, and it is a matter for congratulation that our farmers are showing such good business sense in this regard.

A correspondent states that the rural carrier on his route refuses

to deliver the mail unless the roads are kept open, and asks whose duty it is to keep them open under the law. The rural carrier is acting entirely within his right in refusing to deliver the mail when the roads are not kept in a passable condition. In fact, it would be impossible for the carrier to open a badly drifted road for any considerable portion of his route and deliver his mail. Nor would it be reasonable to expect him to do this work. Under the law it is the duty of the highway officers of the township to see that the roads are opened when complaint is made to them, but even this would be too slow a method of getting

results where any considerable stretch of road is badly filled in during a severe snow storm. In most cases the farmers will get out their teams and break a road, shoveling where necessary, as a matter of convenience to themselves. However, this is optional, and will depend upon how public spirited the man may be, and on how much he is willing to inconvenience himself for the sake of avoiding the trouble and labor incident to such work. But whether it is done by the highway officers or the adjacent owners of farms the opening of the highways for travel after severe snow storms can not be counted as a favor to the rural carrier, since they must be opened in any event if the people living on them are to get out, even if only to get their mail, as they had to do before general establishment of rural free delivery.

It has remained for a family of thrifty descendants of an immigrant from Northern Europe to demonstrate the advantages of co-operation by consumers, as the thrifty farmers of the same section have demonstrated to the farmers of the rest of the world the benefits which producers may secure to themselves by co-operative organization. A recent communication from Chicago states that the descendants of Jan Ton, who came to Chicago from Holland in 1849, and whose descendants and their families now number 566 persons, are planning to effect a tribal consolidation on the co-operative plan, which will enable the buying of everything for the table and the home by the numerous family units of this large family corporation from their own store at prices averaging about 40 per cent below the ordinary Chicago retail market values. It is stated that the plans for organization were fully considered at a New Year reception and that three members of the family who are in the grocery business have been appointed as a special committee to investigate the food problem. The plan contemplates the establishment of a large co-operative store through which produce and family supplies of all kinds shall be bought and sold to members of the family at wholesale prices.

An experiment of this kind will have considerable educational value as an object lesson to other residents of the communities in which the members of this large family live. The co-operative organization of consumers is just as feasible as that of producers, and should be productive of just as profitable results. In fact, the co-operative organization of both producers and consumers on the community plan will complete the economic chain without the expensive link now represented by the middleman, and eliminate the costly methods of distribution now so generally in vogue, at the same time. The result of this experiment should be watched with interest by the producers of foodstuffs in the entire country, as well as by the consumers who might profit by effecting similar organizations on strictly business, rather than family lines.

A committee of the Michigan Horse Breeders' Association has prepared

a bill providing for the licensing of stallions in Michigan. Under the provisions of this bill the work of examining pedigrees and issuing certificates to stallion owners would be assigned to the State Live Stock Sanitary Commission, which board would be authorized to grant certificates to stallion owners in which the animal would be described and the statement made whether a pure-bred animal, registered in one of the record associations recognized by the United States Department of Agriculture, or eligible to such registration, a standard-bred or non-standard animal conforming to conditions specified in the certificate, a grade, having a pure-bred sire or dam, or a scrub or mongrel without other claim than his own individuality. Provision is made for the posting of copies of these certificates in all places where stallions are stood for service, in order that the public may be advised with regard to the breeding of the animal offered for service. The bill also contains a provision for the examination of all stallions brought into the state for service for hereditary unsoundness as well as breeding, before a certificate is granted by the board having charge of the work. Provision is also made for the recording of all certificates by the county clerk in the county where the stallion is owned for which the certificate is granted. In addition to the work of examining pedigrees and horses, the bill contem-

plates the giving of the State Live Stock Sanitary Commission broad powers in the collection and publication of statistics and information of value to the horse breeders of Michigan, and carte blanche for expenses incurred in the work provided for in the bill so long as same are approved by a majority of the members of the commission.

Undoubtedly Michigan needs a better stallion law. Many of our sister states are far in advance of us in this matter. This bill has much to commend it, and should receive the endorsement of every one interested in horse breeding in Michigan. It simply protects the users of stallions against the representations of unscrupulous owners, and affords the honest owner the protection to which he is entitled at the same time. The bill is to be discussed at the meeting of the Association to be held in connection with the State Live Stock meeting this week, and may be modified in its provisions before being introduced in the legislature for passage. A possible weak point is the very broad power which it contemplates giving to the commission which would be charged with the enforcement of the law in the event of its enactment. While it is certain that there would be no abuse of this power by the commission as at present constituted, legislatures are generally loth to delegate such broad powers to a state board. This, however, is a possible complication which should be easily adjusted, and should not interfere with the passage of a good stallion law, which is needed for the betterment of the horse breeding industry of Michigan.

HAPPENINGS OF THE WEEK.

National.

Judge Noyes, of the United States court of appeals, in a decision handed down Monday, declared that the Otto engine, which is the type used by the independent automobile manufacturers, does not infringe upon the Selden patent. The licensed association will take the matter to the federal supreme court. The patent expires in September, 1912.

The circuit court of appeals for this district in the case of the state of Michigan against John Hart, oleo manufacturer of Detroit, has decided against the manufacturer and he must serve a sentence and pay a fine. He violated the federal statutes in regard to the manufacture of oleomargarine.

The first money to be collected by the government under the rebate law was received Monday from the Standard Oil Company at Buffalo, when \$23,766 was paid into the federal court. The company had succeeded in getting a rate from the railroads of 10 cents per cwt. when the published tariff was 28 cents.

Daily sessions are being held at Washington by the representatives of this government and Canada, in an effort to arrive at an agreement on a reciprocity treaty between the two countries.

Stephen Benton Elkins, senior United States senator from West Virginia, died in Washington, January 4. He was born in Perry county, Ohio, in 1841, of poor parents and was brought up and given a common school education while living on a farm in Missouri. At the time of his death he had accumulated a fortune of several million dollars. His son will be appointed to represent West Virginia until a successor is chosen by the state legislature.

A plot has been unearthed that, had it been carried out, might have meant the dismantling of the state prison at Jackson. A prisoner who was being transferred to Marquette, is said to have given the "tip" that explosives, revolvers and prison-breaking tools had been smuggled within the prison walls, and upon investigation they were found.

The Carnegie Trust Company, of New York, has gone into the hands of a receiver. It is expected that three other institutions, which are threatened by the failure of the trust company, will be saved by activity on the part of clearing house bankers.

Through the death of Senator Elkins last week, West Virginia is placed in the unusual position of having to choose two United States senators at the present session of the legislature of that state. There are many candidates in the field.

In the discussion of the important question of whether the United States was given right under the treaty granting to this country the privilege of building the Panama canal of fortifying the structure after completion, is interpreted by those having the matter in hand when the treaty was ratified by the United States senate in the affirmative. Chief among those who hold this view is Former Senator Foraker, of Ohio, who was instrumental in securing the provision in the treaty.

President William E. Corey, of the United States steel corporation, has submitted his resignation. The reasons given are that he wishes to retire from business.

It is asserted that hotel men of the gulf states are talking another revolution in Cuba for the alleged purpose of distracting the attention of the traveling public from the island in order to improve winter patronage in the southern states.

An action between the Detroit & Mackinac and the state railroad commission, begun in the Wayne circuit court and which will undoubtedly be carried to the higher courts inasmuch as it means much to the railroad and lumber interests of the state and country, will establish

whether a railroad commission can abrogate a rate and establish one of their own.

Statistics show that for the fiscal year of 1910 there was imported into the United States over \$48,000,000 worth of diamonds, as compared with \$29,000,000 for the previous year and with less than \$17,000,000 for the fiscal year of 1908 when the panic was on.

Two pilots started with the balloon St. Louis, which was entered in the international race last October, from St. Louis for New York Sunday night. Should they be drifted to the north of their expected course they will try for a world's record.

The California legislature is considering a measure which seems to be aimed at a very heart of gambling in connection with racing, by declaring the ownership of a betting ring to be a crime. Besides, the bill prohibits oral betting and is drafted along similar lines to the anti-betting act of New York state.

Foreign.

Mass meetings of miners in the Ruhr coal fields of Prussia, have been held for the purpose of voting upon demands for higher wages. This action is taken in sympathy with Belgian miners who are now on strike.

Earthquake shocks were felt at Valdez, Alaska, on the morning of January 6.

Avalanches of extraordinary extent have occurred recently in northern Italy. Between Limone and Vernate railways have been blocked, in one valley the only things appearing above the snow are chimneys and the tops of telegraph poles.

A movement has started in England asking the home secretary to take action against proselytizing of the Mormon church as has been done by Germany.

It became necessary to call out troops to disperse crowds which gathered to protest against the adoption of the proposed constitution for Alsace-Lorraine. The demonstrations were made by socialists and radicals.

Diplomatic relations have again been established between Bolivia and Argentine Republic.

A treaty has been agreed to which clears the way for making loans to Liberia, Africa.

Elections are being held in San Salvador this week.

The bubonic plague is reported to be ravaging in Eastern Manchuria.

The revolution in Honduras is well under way; the rebel troops are rapidly increasing in numbers and the organization under Manuel Bonilla and Lee Christman promises victory for the revolt.

An attack on Puerto in the province of Cortez is expected at any time. It is not known how loyal the federal troops will remain, but the officials have grave fears that in a crisis the men will surrender to the rebels.

Help from Guatemala is reported to have been given Bonilla which act terminates the Washington convention and neutrality laws existing between the Central American Republics.

MICHIGAN CROP REPORT.

Wheat.—In answer to the question, "Has wheat during December suffered injury from any cause?" seven correspondents in the state answer "yes" and 558 "no," and in answer to the question, "Has the ground been well covered with snow during December?" 570 correspondents answer "yes" and nine "no."

The total number of bushels of wheat marketed by farmers in December at 106 flouring mills was 266,303 and at 114 elevators and to grain dealers 253,933, or a total of 520,236 bushels. Of this amount 348,768 bushels were marketed in the southern four tiers of counties 129,575 in the central counties and 41,893 in the northern counties and the upper peninsula.

The estimated total number of bushels of wheat marketed in the five months, August-December, was 5,750,000.

Fifty-four mills, elevators and grain dealers report no wheat marketed in December.

The average condition of live stock in the state is reported as follows: comparison being with stock in good, healthy and thrifty condition: Horses, sheep and swine, 97, cattle 96. The average prices January 1 of some of the principal farm products, in the markets where farmers usually market such products were as follows:

The average price of wheat per bushel was 89c; rye 72c; shelled corn 54c, and oats 34c. The average price of hay per ton was \$13.54. The average price of fat cattle was \$4.54 per cwt.; of fat hogs \$7.39 per cwt., and of dressed pork \$9.29 per cwt.

The average price of each class of horses was as follows: Under one year old, \$52.51; between one and two years old, \$85.40; between two and three years old, \$123.26, and three years old and over, \$162.01.

Milch cows were worth \$43.90 per head. Cattle other than milch cows, under one year old, \$12.77; between one and two years old, \$21.41; between two and three years old, \$32.50, and three years old and over, \$41.41.

Sheep under one year, \$3.90, and one year old and over, \$4.78. Hogs not fattened were worth \$6.44 per cwt.

The prices given are for the state. The price of wheat is 26c; corn 10c; and oats 9c lower than one year ago and rye 2c, and hay \$1.68 higher.

The average price of horses, etc., one year ago was as follows. Under one year old, \$50.24; between one and two years old, \$82.15; between two and three years old, \$118.58, and three years old and over, \$154.16.

Milch cows, \$41.55; cattle other than milch cows, under one year old, \$12.11; between one and two years old, \$20.28; between two and three years old, \$31.28, and three years old and over, \$40.34.

Sheep under one year, \$4.19, and one year old and over, \$5.20; fat cattle, \$4.83 per cwt.; fat hogs, \$7.73 per cwt., dressed pork \$9.91 per cwt., and hogs not fattened, \$6.89 per cwt.

CROP AND MARKET NOTES.

Shiawassee Co., Jan. 2.—Weather moderating, with strong south winds. Sleighting fast being impaired and very poor. Farming, on the whole, at a standstill. The winter so far has been very favorable for wheat, the land being well covered and the soil plenty moist. A few farmers are husking their corn with the machine. A large quantity of beans still unthreshed, also clover seed. Farmers seem in no hurry to dispose of their bean crop, believing that it is unprofitable to sell for less than \$2 per bushel. A large quantity of potatoes in the cellar. Lamb feeders are still hopeful that the market will begin to brighten up; a few cars that were put on feed early are about ready for shipment. No cattle to speak of on feed. Very few hogs in the country. Horses are changing hands frequently and high prices being paid for good animals. A few farmers are still hauling sugar beets to the factory, but the crop is about marketed.

Emmet Co., Dec. 30.—On the whole, mild weather for the month, with light fall of snow for our locality. Back from the lake shore 15 to 20 miles it is reported as being two to three feet deep. The price of pork is now advancing, about 8½c. Dressed chickens are selling at 15c with a continued advance; eggs, 35c. Stove wood is a point off for the reason that it is coming in much more freely. Dry selling from farmers' sleighs at \$2 per cord, and green at \$1.75. Hay, \$16 @18; straw, \$8.

Livingston Co., Jan. 9.—We have been enjoying very good sleighing the past four weeks and while we have had considerable bad, stormy weather the roads at no time have been very bad. It has been ideal weather to feed stock as the temperature, has remained quite steady. Lamb feeders are not taking a very optimistic view of the business on account of the price of lambs and they are at a loss to know whether to sell their lambs for which they paid 6c per lb., at 5½c in a half-fat condition or finish them and then take less on account of their being too heavy. There seems to be an unusually large number of lambs on feed this winter in this section. Grain not moving very freely, farmers waiting for better prices. Farmers generally busy getting up their summer's wood supply.

MICHIGAN FARMERS INSTITUTES.

Allegan Co.—Chicora, Jan. 16; Leisure, Jan. 17; Glenn, Jan. 18; Ganges, Jan. 19; Douglas, Jan. 20; Laketown, Jan. 21; Hamilton, Jan. 23; Burnip's Corners, Jan. 24; Monterey, Jan. 25; Hopkins, Jan. 26; Wayland, Jan. 27; Plainwell, Jan. 28; Otsego, Jan. 30.

Benzie Co.—Frankfort, Jan. 28. Branch Co.—Union City, Jan. 16-17; Bronson, Jan. 18; Gilead, Jan. 19; Alansee, Jan. 20; Quincy, Jan. 21.

Genesee Co.—Clio, Jan. 25-26; Gaines, Jan. 27-28.

Ingham Co.—Dansville, Jan. 23; Leslie, Jan. 24.

Jackson Co.—Springport, Jan. 23; Tompkins, Jan. 24; Rives, Jan. 25; Henrietta, Jan. 26; Grass Lake, Jan. 27; Michigan Centre, Jan. 28; Norvell, Jan. 30; Brooklyn, Jan. 31; Liberty, Feb. 1; Hanover, Feb. 2; Concord, Feb. 3; Spring Arbor, Feb. 4.

St. Clair Co.—Algonac, Jan. 23; Capac, Jan. 24; Berville, Jan. 25; Smith Creek, Jan. 26; Lamb's, Jan. 27; China Twp., Jan. 28; Columbus, Jan. 30; Yale, Jan. 31.

The Round-Up.

The State Round-Up Farmers' Institute will be held at the Agricultural College, February 28, March 1-2-3, 1911. In addition to the usual general program, "The Renovation and Care of Orchards" will have special attention at the State Round-Up Institute. Another leading feature will be the largest and most complete exhibit of spraying apparatus and supplies ever made in the country. There will also be a large exhibit of fruit.

NATIONAL CORN EXPOSITION.

The program for the fourth annual National Corn Exposition, to be held Jan. 30 to Feb. 11, in the eight immense buildings on the Ohio state fair grounds at Columbus, has just been completed, and provides for one of the greatest national agricultural expositions ever held.

This great exposition will be a grand round-up of all state agricultural shows and agricultural meetings. The name, "Corn Exposition," does not mean that only corn will be shown, for all grains and grasses, the prize winners only, at the various state shows, will be in competition for the valuable national trophies.

More than 35 states will have competitive exhibits. Twenty-five state agricultural colleges and experiment stations will have scientific exhibits, each demonstrating its most advanced experimental work. These exhibits, which will be in charge of expert demonstrators, will deal in a practical way, with nearly every phase of the science of agriculture. For instance: North Carolina will emphasize the cotton industry—from the growing plant to the manufactured article—with cotton gin and loom in actual operation while Illinois will especially emphasize its soil work.

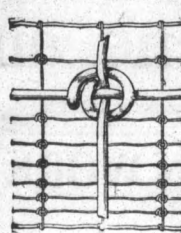
The federal department of agriculture will be represented with its famous exhibit which fills two large furniture cars, and which has just been returned from the international exposition at Buenos Ayres.

Important among the many meetings, exhibits and other special features of this exposition may be mentioned the meetings of the American Breeders' Association; the Ohio Dairymen's Association; the National Rural Life Conference; the Ohio Conservation Association; the Ohio Corn Improvement Association; and numerous live stock Associations. There will be special features of vital interest to the Y. M. C. A., churches, colleges, schools, the farmer, and the city man and their families alike.

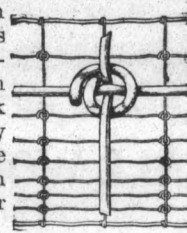
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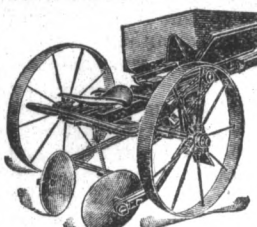
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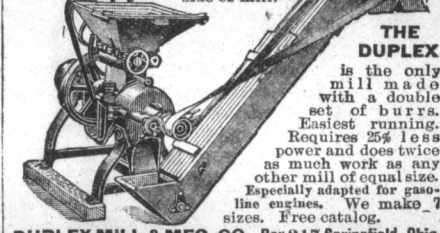
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Woman and Her Needs

At Home and Elsewhere



SHALL WOMEN DO THEIR OWN WORK?

How About the Mother of Six?

LET the women who want to hire their work done do it themselves or have it go undone," says "E. M. F." in a letter which she writes to "start an argument." The writer is very much against girls going out to domestic service and holds to the idea that every woman should do her own housework and that mothers of daughters should keep them religiously from entering another woman's kitchen.

I can just hear the mother of six small children who is the owner of a large house, saying "Amen" to that. As she rises before dawn and toils until bedtime, scrubbing, washing, ironing, baking, cooking, mending, sewing, sweeping and dusting, and probably carrying wood and water besides, I can imagine how heartily she endorses the idea that every woman should do her own work or let it go undone.

What matter if she is little better than a slave, with no time to rest or read; scarcely time enough to eat and sleep if she is to do her duty by husband, babies and house? She is living up to that democratic doctrine of doing one's own work and she is helping girls to be independent and free from the odium of working for somebody else.

And the woman whose health is so poor that she can not work, will no doubt endorse the idea of going without kitchen help. Husband can cook his own meals or get them some place else and the house can go unkept so long as girls do not need to go out to domestic service.

The theory that every woman should do her own work sounds very well but it doesn't bear out well in actual practice. Ever since the world began there has been need of housemaids, and so long as it stands there will be those who need help. What woman, for instance, is able to do all her own housework and take care of a family of children without leaving something undone? Either the work is only half done or the children are not properly cared for or the mother herself is overworked and run down. Something suffers, and if it is not the work or the children it is the mother's health. Every mother of little ones needs help and it is foolish to say that she doesn't.

I'll admit there is a certain class of women who should be compelled to do their own work. They are the idlers in large cities whose husband's salaries are so small they can barely pinch along, but who insist on keeping a "maid" so they can spend their mornings in the stores "shopping," and their afternoons and evenings playing bridge or at the theaters. These women I should like to see forced to do their own housework. They are perfectly able to so far as health and little ones are concerned, for they positively refuse to bear children and their plump, well-fed appearance shows them to be the picture of health.

They are healthy, but not contented, for no mind that is not busy can be contented. They have absolutely nothing to think of but clothes and pleasure and their only ambition in life is to outshine their neighbors. Could these women be kept so busy cleaning and cooking they would have no time for running about, it would be a godsend to the community and a new lease of life to the husband who is haunted day and night with a mountain of bills he sees little hopes of paying.

The servant girl question will never be settled by each woman doing her own work. It will be settled only when each side practices the golden rule and both mistress and maid show absolute fairness and justice. The maid who slights her work, leaves corners uncleaned, wastes food, and is saucy and disobedient, is on exactly the same footing as the mistress who is overbearing and exacting, gives the girl a cold, dirty room to sleep in,

keeps back her wages and demands a harder day's work than the human frame is capable of standing. There is much to be said on both sides and to my mind the girl is at much at fault as the mistress. The chief cause of discord, I firmly believe, is our blessed spirit of "American independence." The girl "is no-

body's slave," will "take orders from no one" and will often refuse to do work that is not a bit too hard for her nor at all degrading.

This, of course, causes friction. If a woman pays a girl for her time and to do her work she naturally expects to have something to say as to how the work shall be done. The quicker girls learn that it is not beneath them to take orders, the quicker the problem of kitchen help will be settled.

DEBORAH.

Country Women As Money Earners—No. 19.

Mushroom Growing Offers Large Profits.

MANY women are searching for remunerative and pleasant employment upon the farm, and what can be more interesting, pleasant and profitable work for them than mushroom growing? After the farmer makes up the mushroom bed his wife or daughter can attend to its management with hardly any tax upon her time and without interfering with her other domestic duties. And it is clean work; there is nothing menial about it. No lady in the land would hesitate to pick mushrooms in the open fields, how much less, then, should she hesitate to gather the fresh mushrooms from the clean beds in her own cellar? Mushrooms are a winter crop; they come when we need them most. The supply of eggs in the winter season is limited enough, and pin-money often proportionately short; but with an insatiable market demand for mushrooms all winter long, at good prices, no farmer's wife need care whether the hens lay eggs at Christmas or not. When mushroom growing is intelligently conducted there is more money in it than in hens and with less trouble."—Falconer.

With this as a text from a book which is conceded by mushroom growers to be an authority, I proceed. If you want to make money at home, here is an easy way, provided you are successful. I put in this proviso because of Miss M. R. King, of Detroit, who, while she is enthusiastic on the subject of mushroom-growing, yet has to admit some failures. This is her fourth season. Her first was not a success; her second was gratifyingly so; her third was a failure, and the result of the fourth is yet to be learned.

"I am not going to give up because of my two failures," declares Miss King, "for the work is so fascinating and so remunerative when you do win out. I have a man to help me in preparing my beds, for that part of the work a woman could scarcely do alone.

"The first requisite is plenty of manure from horses that have been bedded with straw. This should be heaped up and left for about eight days, turning it every two or three days. At the end of this time we prepare the bed, mine is about four feet by six, by spreading the manure out evenly to a depth of 18 inches and then tramping it down until it is from 12 to 15 inches thick. We put a board on top and walk on it until the manure is packed solidly. Then we immerse a thermometer in the bed and leave it until the temperature is about 90 degrees, when we plant the spawn.

"The year that I had success I used the English brick spawn, breaking it into pieces an inch or two square and placing these small pieces in the bed, or compost as it is called, just beneath the surface. At the end of eight or ten days I can see indications that the spawn is starting, a little whitish substance like mould shows on the surface. Then I cover the bed with about an inch of loose soil which has been cleared from all stones and sticks. This I accomplish by sifting it over the bed through an ash sieve. Then I try to go away and not look at my bed for eight weeks. By this time the mushrooms should be showing and in a week or so they are ready to eat.

"The temperature of my bed I try to keep at 65 degrees after the spawn is in.

Some authorities say it can get as low as 45 or 50 but I do not think they do so well at that low temperature. I think I failed last year because I made the bed too wet. Mushrooms require a certain amount of moisture, but too much will rot them. They do better if they are not watered at all. The temperature should be uniform, too, and those women who try to grow them at home ought to have some way of keeping the beds at a temperature of about 60 degrees. A stove might be set up in the cellar, or the beds can be covered with straw and protected from all outside draughts by boxing them in."

Many women might want to engage in the enterprise of mushroom growing, but be held back by the fear of an odor from the beds. This need not deter you as there is absolutely no odor from the compost. The manure is prepared outside the house and after the bed is made gives no trouble. Mushroom growing is such an exhaustive subject and would require so much space to cover it at all adequately that it can not be treated in the confines of a magazine article. For women who live near enough to a large town to work up a hotel trade or a trade with a large grocery, there is no more profitable employment. A bed 100 feet long by five wide, if rightly handled, will yield 250 pounds. As mushrooms sell for 35c per pound it will quickly be seen what the profits are if you do all the work yourself. The manure you have free, the cellar is already on the farm and the spawn costs very little. If you fail you are only out the cost of the spawn, and if you succeed you have a handsome sum to show for your winter's work.

The name of a good book on the subject will be furnished anyone who is interested, on receipt of a self-addressed and stamped envelope. Also the names of gardeners where spawn may be bought.

THOUGHTS ON CHRISTMAS GIVING.

BY ELLA E. ROCKWOOD.

THAT Christmas giving is assuming burdensome proportions seems to be generally acknowledged. No matter how cheerful the giver there is a limit to human endurance and from the experience of several women who were comparing notes just after the holidays, it would appear that when one goes beyond 50, and even 60 presents each year it is crowding the limit pretty closely.

The question arises, does it pay to make oneself a slave to this practice even though it is a bondage of love? In justice to one's family, can any woman devote so great an amount of time to it as is demanded, to say nothing of anything else. Instances are not unusual where the dawn of Christmas day finds a wornout and haggard individual ready to collapse from the strain of the holiday preparations. And in spite of every effort, each year sees the gift list growing larger instead of smaller.

This resolves itself into a personal problem which each must solve for herself. But in view of the conservation spirit at present being agitated, may not we study this out and find some way of conserving our strength and nervous energy instead of slavishly following the prevailing custom which makes the holi-

day season one of positive dread instead of a joyful time? My suggestion would be to give to one's immediate family and such intimate friends and near relatives as may be remembered without burden. To give generously as possible to those who are needy, especially children, for whom the season seems particularly intended. A giftless Christmas is not to be desired, since there is too much revolving around the practice to abandon it wholly. As a Christian nation we would continue to offer gifts in remembrance of God's greatest gift to man. Only let the custom be followed sanely, and in moderation rather than in the promiscuous fashion which seems largely to prevail at present.

THE COLLEGE GIRL AS A FARMER'S WIFE.

BY KATHARINE A. GRIMES.

Thirty years ago a college education was thought to put a girl on a pinnacle, far removed from the ordinary bread-and-butter struggles of life. Today it is looked upon as a mere preliminary training for any kind of work that comes to hand. Its end and aim has ceased to be a superficial crust of things she will never need, and has become a matter of real equipment for what fortune may have in store for her.

The time was when a young man, farm born and bred, would not have dared to lift his eyes toward a college girl, with the thought of asking her to share his lot. There were too many possible objections. He could not promise her the circle of congenial companions to which her college life had accustomed her. Her years of boarding had perhaps developed in her a taste for more elegant surroundings than he could afford. More than all, her dainty dress and manner seemed out of place in connection with churning, and baking, and chickens. Probably his friends characterized her as "a worthless thing," so far as practicability went, and he secretly shared the doubt. So he contented himself with some rustic maiden, whose lines had fallen parallel to his own.

But things have changed. The traveler through the country sees many a college diploma hanging on the walls of rural homes. With her keen perception of true values, the college girl recognizes the freedom and pleasure of a country life, as compared with the hard-and-fast round demanded in the city. When she came and saw, she was not long in conquering, and is proving herself eminently fitted for the rational, healthful progressive life of the country.

Her years at school have taught her to grasp the main point, and let side issues go. They have taught her the value of definite planning. These principles are as applicable to housework as to social economics. She is generally a capable utilitarian, seeing the value of every scrap of usable material that comes in her way. She has been trained to see it. Wastefulness in any sense is a crime, and one which she is not likely to commit. Where her untrained sister has no idea of using material in more than one or two ways, she finds endless possibilities, including the last scrap.

The girl with cultivated taste demands comparatively little in the way of household furnishing. Flashy curtains and over-loaded mantles make no appeal to her. She knows how to give the touches to simple things that makes the difference between home and a place to stay. The expense may not be half that of some gaudy trifle, but the gain in charm and daintiness is inexpressible. In dress the same rules obtain. The well-bred girl does not care for the finery in which her less cultivated sister revels. Her ideal is a higher one than to out-class someone else in matters of display.

The college girl is not dependent upon others for companionship. She has a world within herself. She has been used to look to her books for her truest friends. With them, the hours are never

Famous "Pint of Cough Syrup" Recipe

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Make a plain syrup by mixing one pint of granulated sugar and $\frac{1}{2}$ pint of warm water and stir for two minutes. Put 2½ ounces of pure Pinex (fifty cents' worth) in a pint bottle, and fill it up with the Sugar Syrup. This gives you a family supply of the best cough syrup at a saving of \$2. It never spoils. Take a teaspoonful every one, two or three hours.

The effectiveness of this simple remedy is surprising. It seems to take hold instantly, and will usually stop the most obstinate cough in 24 hours. It tones up the jaded appetite and is just laxative enough to be helpful in a cough, and has a pleasing taste. Also excellent for bronchial trouble, throat tickle, sore lungs and asthma, and an unequalled remedy for whooping cough.

This recipe for making cough remedy with Pinex and Sugar Syrup (or strained honey) is a prime favorite in thousands of homes in the United States and Canada. The plan has been imitated, though never successfully. If you try it, use only genuine Pinex, which is the most valuable concentrated compound of Norway white pine extract, and is rich in gualic acid and all the natural healing pine elements. Other preparations will not work in this recipe.

A guarantee of absolute satisfaction, or money promptly refunded, goes with this recipe. Your druggist has Pinex or will get it for you. If not, send to The Pinex Co., 232 Main St., Ft. Wayne, Ind.

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long, nor the time heavy. She is better fitted for the semi-isolated life of the farm, and finds greater chances for happiness in it, than almost any other woman. The quiet home life there possibly gives her the time for reading and study that she has always coveted. This in itself is compensation enough for any lack of companionship. As her children come, she finds her greatest delight in training them, and the days are never long enough for the pleasant round of teaching and study that she finds her greatest and most profitable duty.

The college girl has the immense advantage of a business training. She is more than a mere cook in her husband's household. She is a real partner, planning with him and entering into his hopes and ambitions, and often her clear sight is one of the greatest factors in his success. If need be, she can become an efficient business manager. Should she be left alone, with a family to care for, she is equal to the emergency. For her there is no such word as fail. She has had her faculties sharpened until they are rich in expedient, and capable in accomplishment.

More important than all, she has been taught to see the true dignity of labor. She is never "above" any honorable work that presents itself. She is never afraid of losing her social prestige by doing her own washing and ironing. Such things make a small part in her wide-glancing conception of life, and she sets small value on the artificial limits fixed by "society."

The girl who has spent her days in earnest study has not frittered away her youthful charm by inane flirtations. There is little fear of her having a "past" of questionable repute. The love of a true heart is to her a priceless thing, and not to be played with. But she has both right and will to ask that the heart offered her be as clean and honest as her own.

Altogether, the young an on the farm who is ambitious, honorable and progressive, and there are very many such, can make no mistake in choosing his wife from the ranks of girls who step from our college doors every year. Such a one will not only help him to fulfill his own highest ideals, but will urge him to raise new, and even more lofty ones. The farms and the farmers both need the college girls.

APRON CHAT.

BY J. ALLISON.

"Forethought is coin in the pocket, quiet in the brain, and content in the heart."

For those who have not practiced this forethought, this apron chat is designed, for every woman both wants and needs aprons. Plain, ample ones for kitchen work, dainty, frilly ones when concocting chafing-dish dainties, capacious pocketed ones for the needle-woman, nurses' aprons, etc.

The design that is given herewith may be used for sewing, serving or kitchen apron just as the proportions and materials are chosen.

The apron from which this design was taken was intended to be used as a sewing apron when the work was pick-up work, and was made from a grade of India linen that usually retails for 15 cents per yard. The insertion, and lace are half-inch imitation torchon, costing about five cents per yard.

If one wishes to use this pattern for a kitchen apron, cut it as long as desired, keeping the proportions correct. It would be pretty made of unbleached muslin, with the gores set together with strips of bright plaid gingham or chambray and a band of the same used to finish the edges.

If used for a sewing apron, a heavy linen would be good, using still heavier lace or coarse Battenberg braid for the insertion and finishing the edges with a buttonhole pattern. If one does not wish to spend the time to embroider the edge, hem with a roll hem and finish with coronation braid. It gives the effect of embroidery with a very slight expenditure of time.

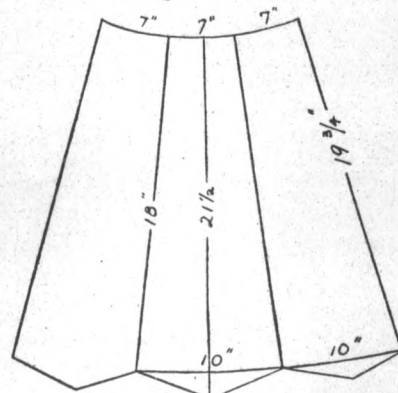
Checked dimities also make pretty aprons after this pattern. Any of the materials named will make it possible to make an apron of the size given in the diagram at a cost of 25 to 30 cents.

Two yards of unbleached muslin will make two aprons for kitchen wear, and will make a variety with the plain, straight aprons most often worn or the long-sleeved ones that are much favored. Faced with bright colored chambray or

gingham they make a dainty and attractive gift of a prosaic necessity.

Tear a four-inch strip off each side of the muslin. Sew together and you have a strip for a ruffle that will not need hemming as it has the selvedge edge. Make a lengthwise fold in the muslin, having the piece that is doubled eleven and a half inches wide. This makes the apron 23 inches wide, and leaves a strip at one side for the strings. Measure 33 inches on the fold and 25 on the outside edge. Round from the outside down to the center front and you have the apron ready for the ruffle. If you use the facing of chambray, face the ruffle before gathering.

It will be best to cut out the other apron before completing the first one as the bits left make the bibs, pockets and strings. The plain apron is 27 inches wide and 35 long, and should be faced with some bright material. If for a very slender person the effect will be better if the apron is sloped off from the top so



there will be less to gather into the band. Use a very narrow band and set the bib over it and stitch twice. The band may extend an inch beyond the apron and then have strings long enough to tie easily and about four inches wide.

This pattern made short makes a very pretty serving or sewing apron.

The long, plain, straight aprons so fancied by many for wear when sewing are very pretty with the hem put in with an insertion of lace or embroidery.

There are countless other ways of making pretty aprons, but do make them look as if they were intended for use and could be washed.

Also be generous with your strings. Have them as long as you like but do not have them so narrow that they are veritable "strings."

A NOURISHING, DELICIOUS AND CHEAP DESSERT.

No. 32.

BY MRS. ALTA L. LITTELL.

I wonder why more farmers do not put up ice during the winter? Ice-cream is one of the most thoroughly enjoyed, most nourishing, least distressing desserts that can be made, not to mention being the easiest one to make known to man, or woman.

Of course, there is a hard way to make it. But the right way is the easy way, being the American way. The hard way is to make a custard with eggs, sugar and milk and cream. This is the foreign way, which gives Neapolitan ice cream. The easy way is to make Philadelphia ice-cream. For this take clear cream, or one-third milk and two-thirds cream. If you wish it smooth and velvety put it in a double boiler and scald it just until the bubbles begin to appear on the sides. Then sweeten and cool. Add your flavor and freeze. It is delicious with a quart of mashed fruit put in when it has frozen just long enough to be mushy. You then need no flavoring. The cream may be simply poured into the freezer and frozen though it is not so smooth this way.

In packing your freezer, first break the ice into small bits and allow one measure of coarse salt to every three measures of ice. Pack the ice well down with a broom handle. The finer the ice is crushed the quicker the cream will freeze, as the freezing depends upon the cold being released from the ice to go into the cream.

Do not draw off the water until the ice floats on top. Then draw off and repack. In packing to let the cream stand after freezing, use less salt. Cream should stand three or four hours after freezing before it is served.

Put the pancake griddle in the oven to keep it hot, if one has to bake cakes for a late comer, and thus avoid a smoky room.—Mrs. H. R. W.

Use the water that potatoes have been boiled in to clean your silverware. It is better than the most expensive polish.—Mrs. A. D. P.

OLD COMMON SENSE

Change Food When You Feel Out of Sorts.

"A great deal depends upon yourself and the kind of food you eat," the wise old doctor said to a man who came to him sick with stomach trouble and sick headache once or twice a week, and who had been taking pills and different medicines for three or four years.

He was induced to stop eating any sort of fried food or meat for breakfast, and was put on Grape-Nuts and cream, leaving off all medicines.

In a few days he began to get better, and now he has entirely recovered and writes that he is in better health than he has been before in twenty years. This man is 58 years old and says he feels "like a new man all the time."

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is a heavy yield, but that's what John Kennedy of Edmonton, Alberta, Western Canada, got from 40 acres of Spring Wheat in 1910. Reports from other districts in that province showed other excellent results—such as 4,000 bushels of wheat from 120 acres, or 33½ bushels per acre. 25, 30 and 40 bushel yields were numerous. As high as 132 bushels of oats to the acre were threshed from Alberta fields.

THE SILVER CUP

at the recent Spokane Fair was awarded to the Alberta Government for its exhibit of grains, grasses and vegetables. Reports of excellent yields for 1910 come also from Saskatchewan and Manitoba in Western Canada.

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HEALTH NOTES.

BY CHARLOTTE A. AIKENS.

Bow-legged babies are very common, and bow-legged babies may and usually do, grow up to be bow-legged boys and girls and men and women.

Sometimes the mother's milk lacks some of the mineral ingredients the baby needs for bone-making. The bones need a certain proportion of lime and other mineral elements to stiffen them and sufficiently to bear the weight of the body. But by far the great majority of bow-legs in children can be traced to the baby being allowed to stand on his feet before the bones in his legs were stiff enough to bear the body weight. It does not pay to hurry nature. Even if a child is a year and a half to two years old before he tries to walk, let him take his own time. When of his own accord he tries to pull himself up by a chair, it is usually quite safe to encourage him to go on. Even standing in the lap should be discouraged till nature herself shows that she is ready.

If it is at all possible, let the baby sleep in a little crib or cot of its own. Some sort of cot can be constructed even if it is a crude, homely affair, that will be more comfortable both for mother and baby than if it is kept in the bed with grown-up folks.

For the stings of bees, the bites of insects, such as mosquitoes, bathing the part with ammonia water is one of the best simple remedies.

Slight fevers may occur in children from very small causes. As one never knows just how the fever may develop, it is wise to put the child to bed and withhold food till the child seems to desire it. Most children with fever have little or no appetite and the power of digestion is impaired. Give plenty of water to drink. Give a laxative such as magnesia or castor oil if the child can retain it. Keep the room well aired and cool and cover lightly. Very often the fevers of children are due to too hasty feeding, the use of improper food or overeating. To get the food passage cleared of the irritating substance is important in such cases. An injection of warm, weak soap-suds into the bowels will help in the clearing out process, but as soon as the stomach will retain it a purgative should be given.

A prominent specialist in infants' and children's diseases says, in speaking of eczema in babies, that when mothers will lead well regulated lives as regards food and exercise and infants cease to be overfed, eczema will be eliminated from the afflictions of nursing infants. Among the other causes which are liable to produce eczema in babies are the too early use of starchy food, the use of an irritating soap, general debility and neglect. Some children have a skin that is very easily irritated. Where there is the slightest tendency to skin irritation of this kind, the clothing should be carefully chosen and little or no soap used. Surfaces which touch each other should be separated. Sweet oil is useful to remove the crusts. The tendency to such diseases is greater during the first year and a half. After that age most babies who have reasonably good care are less liable, though often eczema returns at intervals. Regulation of diet is exceedingly important.

REQUISITES FOR THE MEDICINE CHEST.

BY L. M. THORNTON.

In a house where there are young children the medicine chest should always be placed high enough that inquisitive little hands can not meddle with its contents. Perhaps your own children are so well trained that they will never touch anything they have been forbidden to handle, but some day they may have little guests and then a serious if not fatal accident might occur.

In the family medicine chest there should, of course, be the preparatory remedies which you have discovered invaluable and nearly everyone knows at least two or three of these. Then there should be a jar of vaseline, to be used in case of burns, colds, etc.; a bottle of peroxide of hydrogen for cuts, wounds, prickly heat and the poison of ivy or nettles. A good extract of witch hazel for nose bleed or other internal hemorrhage, especially such as comes when one of the tiny first teeth is extracted at home; a bottle of listerine for sore throat or any trouble when a harmless disinfectant is desired. A bottle of camphor to

be used in case of fainting, and sometimes for headache; a bottle of benzoin, for when a few drops are added to the wash water the effect is soothing, sweetening and refreshing; a bottle of Jamaica ginger or ginger extract to be taken for sudden colds; a vial of peppermint; a vial of aconite, with directions carefully written upon it and the poison label very much in evidence; a small bottle of paregoric for bowel trouble and another of turpentine. A few drops of the last named added to a bowl of hot water becomes valuable in cases of neuragic pains or pains in the stomach, as cloths wrung out of it and applied to the surface over the pain bring speedy relief.

In a lower drawer have bandages, anti-septic cotton, soft twine, a pair of small scissors and a sharp needle.

Many a serious illness may be avoided or deplorable accident made less painful by the prompt application of remedies from the medicine chest and the money spent for one call from the family physician would stock it for a year.

SHORT CUTS TO HOUSEKEEPING.

I have been baking cookies on a pancake griddle. Place it on top of the stove so it will be hot enough to brown the cookies very slightly in a couple of minutes and then put them in the oven on top grate only about two minutes. Must be watched very closely as they bake very rapidly. Are very moist when finished.—Mrs. D. L. G.

For a rack to hold tools for cutting ice, take a piece of wood ten inches long and two or three screws. With a brace and bit the openings required to fit the tools when not in use can be easily made. Bore gimlet holes for the screws to fasten the rack to the wall. Give the wood a good sandpapering to make it smooth. The ice pick and scraper are in the way, and in danger of falling on some of the dishes when such tools are laid on the refrigerator. The above rack will be found very convenient if placed near where the refrigerator is kept.—Mrs. J. J. O'C.

Try rubbing dampened soda on the tea cups to remove the tea stains that are hard to get off.—L. S.

Try a wet towel at the back of the neck when sleepless.—J. W.

A GROUP OF GOOD STYLES.

These patterns may be secured by writing the Michigan Farmer office, at the prices mentioned. Be sure to give number and size.



No. 5095—Children's Yoke Dress.—Cut in three sizes, 1, 3 and 5 years. Age three years requires 2½ yards of 27-inch material. Price, 10 cents.

No. 3928—Children's Tucked French Blouse Dress.—Three sizes, 1, 3 and 5 years. For three years it requires 2 yards of 36-inch material; 1½ yards insertion; 2½ yards edging. Price, 15 cents.

No. 4480—Boys' Russian Dress.—Two sizes, 1 and 2 years. For one year it requires 1½ yards of 36-inch material. Price, 10 cents.

No. 3326—Children's French Dress.—Three sizes, 2, 4 and 6 years. For four years it requires 2½ yards, 36 inches wide. Price, 15 cents.

No. 4633—Children's Jumper Dress with Guimpe.—Four sizes, 4 to 10 years. For six years it requires 2½ yards, 36 inches wide, for dress; one yard 36 inches wide for guimpe. Price, 15 cents.

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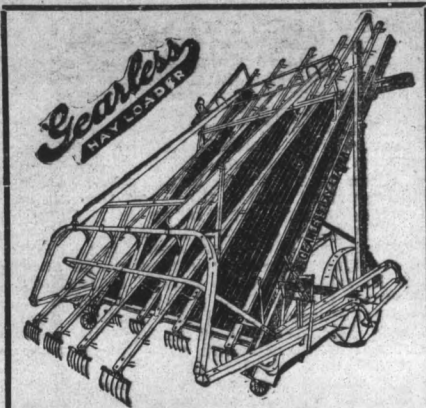
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If ordered together we send both for \$10. Freight paid east of Rockford. Hot water, copper tanks, double walls, double glass doors. Free catalog describes them. Send for it today.

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Double cases all over; best copper tank; nursery, self-regulating. Best 140-chick hot-water Brooder, \$4.85. Both ordered together, \$11.50. Freight prepaid (E. of Rockies). No machines at any price are better. Satisfaction guaranteed. Write for book today or send price now and save waiting.

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in America. We have been making it for over 20 years. Do not buy until you see our new Illustrated Catalogue No. 14. Send for it now. It is FREE.

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JUST SAY "Saw your Ad. in the Michigan Farmer" when writing to our Advertisers.

POULTRY AND BEES

LAYING THE FOUNDATION FOR INCREASED EGG PRODUCTION.

There is much discussion in the poultry and farm press regarding the 200-egg hen, but for the vast majority of practical farmers whose poultry is a side line, and apt to remain so, it seems to me the 200-egg hen is out of the question. There is no doubt as to the possibility of producing some such hens if one can give most of his time to the care of his poultry; but even the poultry experts have not succeeded in producing any strain of fowls that will give so high a record for the entire flock, or any considerable part of it, with flocks as large as those found on the average farm.

Some poultry authorities put the average production of the farm hen at 64 eggs a year. If that figure is correct, the statement of Prof. Spillman, of the Department of Agriculture, that the farmer's outlay for his poultry exceeds his income from them, is quite true. I am inclined to think that the average is too low. There is no doubt, however, that the egg-production of the farm hen is away below what it should be, and that it might be increased materially without interfering with general farm work to any appreciable extent. That a flock average of 150 eggs per hen is possible I know from personal experience, for my flock did even better than that last season. But the high average was not the result of one season's work. It had back of it several years of careful breeding and selection, as well as intelligent feeding and general care.

The first requisite for building up a heavy laying flock is good foundation stock; not necessarily pure-bred fowls, but well developed hens having constitutional vigor and health. It is often best for the farmer who has some good mongrel hens to use them for breeders rather than purchase pure-bred hens or eggs. Why? Because in this way he can start with hens he knows are hardy, vigorous, and healthy, while if he purchases he must take chances on getting hardy fowls unless he can go and see the flock himself. Of course, it will require a longer time to breed his fowls up to standard requirements, but egg production is the main consideration in the farm hen, and the use of good mongrel hens with a standard-bred male will prove most satisfactory. The farmer will learn the requirements of his fowls as he goes along and when in a few years he has built up a flock uniform in size and color he will have become a staunch champion of pure-bred poultry. It is a good plan to select a pure-bred male of the breed that is most in evidence in the mixed flock. Then select the hens that show that breed plainest in their feathers and shape and use them for breeders. Keep all of the best pullets and as they mature and begin to lay dispose of the poorer mixed hens. The following spring cull the pullets again, this time according to their laying qualities as shown in the record of the past six months, as well as for size and vigor. Keep the best of the lot for breeders, mating them with the males that were used the previous year, or substituting males of known constitutional vigor. If any of the old hens are used a second season mate them to vigorous cockerels. In-breeding, however, must not be carried too far if the health of the flock is to be maintained. It will, in time, weaken the stock until the fowls become an easy prey to disease.

By carrying on selection for several years, breeding only from the best and giving the hens careful attention in the way of comfortable quarters and proper feed, the laying qualities of the flock will be gradually increased. If one of the laying breeds, such as the Leghorns, is used the average production per hen should easily reach 150 eggs per year in a flock of medium size.

Ohio. NAT S. GREEN.

VALUE OF THE TRAP NEST.

A Farmer correspondent recently said something about trap-nesting his laying hens. I would like to know how it is done as I am new in the business. Want to know how to make a trap nest, as my hens eat their eggs as soon as laid.

Charlevoix Co. W. J. G. Apparently you have an erroneous idea as to the purpose of trap nests. They will not prevent your hens from eating their eggs, although they might be used as a means of determining just which members of the flock have acquired the

egg-eating vice. The purpose of the trap nest is to enable the poultryman to keep a record of the eggs produced by each hen. To accomplish this it is necessary to have a nest so contrived and adjusted that, when a hen enters, the entrance will close, thus cutting off her escape after she has deposited the egg. It is then necessary for an attendant to remove the egg, mark and credit it to the hen, release the hen and set the nest so that it will entrap the next hen entering it. The labor and close attention which this entails have prevented trap nests from becoming very popular, and their use is almost exclusively confined to those poultry owners who are working to develop heavy laying strains by breeding from their best layers only. There are a number of patented trap nests on the market, some of which are handled by almost every dealer in poultry supplies. There are also a number of home-made devices in use, some of which have been illustrated and described in these columns within the past few years.

As stated above, trap nests will be of little use in breaking your hens of the egg-eating habit, except that by trapping each hen you would be able to determine which ones are egg eaters, (providing the mischief makers are all laying, which is scarcely probable), and that the egg-eating hens would not have access to the nests of others. It might be worth while to devise some simple method of trapping the hens on the nests merely for the purpose of breaking up this miserable habit or vice, but we suggest, rather, that you first attempt to remedy matters by acting on the suggestions contained in a very excellent article on egg eating which appeared in The Farmer of Dec. 24, 1910.

GOOD STOCK IN BEES.

Nearly all bee-keepers advocate good stock in bees, but there is a diversity of opinion as to the best way to get the best stock. Those who have never tried it have no idea of the difference stock will make. Some of the ordinary stock in the country is not worth the keeping. I bought a bunch of bees a few years ago which was a good example of this. It is an actual fact that I could get no comb honey from them at all, and only by the best of care could I get any extracted.

Bees of my own stock, right beside them, were doing good work with no better chance, so I could lay it to nothing else. Nearly all writers advocate buying pure stock of some good queen breeder, and in many cases this might be best, but no matter where you get your queens you should know what they are before you replace queens that are doing fair work. If you have a queen in your own yard whose bees are doing good work, in nine cases out of ten you will do best by rearing your own queens. I have bought several queens lately, and, so far, I have failed to find one that would pay me to breed from. My stock has been built up for several years without any new stock, and it has been improving under the plan of simply breeding all the time from the best honey producers. Don't think that this will be too difficult for you to accomplish, for it is no harder to do this than to introduce other queens, which you would have to do if you sent away for them.

Perhaps the easiest way, if you have only a few bees, is to allow your best queen to come out with a swarm, and then after taking away the queen from colonies which you wish to requeen, leave them 24 hours and set in one of the combs with cells from your good queen.

Mecosta Co. L. C. WHEELER.

THE STATE POULTRY SHOW.

Michigan's one big poultry show will this year occur at Detroit. The dates announced are Jan. 25 to Feb. 2. It will be conducted by the Michigan Poultry Breeders' Association, the organization formed last year, superseding the old State Poultry Association, which is practically a consolidation of the local poultry organizations throughout the state. This state show is designed to be a general poultry round-up, occurring at the close of the annual show season, and drawing the best exhibits from each of the local shows. It is also planned to hold this show at a different point each succeeding year, thus concentrating the poultry interest of the state in one big show to better effect than has been possible in the past. This year's exhibition will be held in the spacious Light Guard armory in Detroit, and entries already booked give promise of one of the largest shows of the kind ever held in Michigan.

The Lullaby Brooder

Poultrymen!

You lose too many chickens

Don't let another day pass without trying out the Lullaby yourself.

Equally as good whether for brood of 25, or 100, or 10,000, broods of 25 each.

Saves time, labor and big losses you have experienced in the past.

Freeport, Me., February 21, 1910.
The Park & Pollard Co., Boston, Mass.
Gentlemen: I received the brooders and have 40 chicks in one of them. I am delighted with it and shall send for more.
(Signed) MRS. CHAS. T. LAMBERT.

Only \$1.50 Delivered

And your money back if not what we claim— you take no chances for you are to be the judge.

But once you have used the Lullaby, your troubles will be over, your work more pleasant and decidedly more profitable.

Order the Lullaby of Your Dealer Today

If he will not supply you, order of as direct.

Anyway, write today sure for our Poultry Almanac—tells all about the Lullaby, and full of valuable poultry information. Worth \$1.00, but free if you write for it.

The PARK & POLLARD CO.

Originators of DRY-MASH Feeding System

18 CANAL ST., BOSTON, MASS.

TO POULTRY SUPPLY DEALERS. We want to arrange to deliver the Lullaby Brooder to poultry raisers through a local dealer to whom all inquiries will be referred. Write for our liberal proposition to dealers.



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Send a postal—get the Book—and through it visit with Phelps the biggest factory of its kind in the world. Let him show you in his photographs how a good buggy should be made—what it should be made of. Phelps knows. They're all

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H. C. Phelps, President, THE OHIO CARRIAGE MFG. COMPANY, Station 32, Columbus, O. Largest Factory in the World Selling Vehicles Direct

WANTED—A pair of pea fowls (male and female).

Fourth National Bank, Grand Rapids, Michigan.

48 BREEDS Fine pure bred chickens, Northern raised, hardy and very beautiful. Fowls, eggs and incubators at low prices. America's greatest poultry farm. Send 4c. for fine 100-page 17th Annual Poultry Book. R. F. NEUBERT, Box 813, Mankato, Minn.

FOR SALE—Mammoth Bronze Turkeys

Mrs. THOS. WYCKOFF, Orchard Lake, Michigan.

GEESSE Mammoth S. C. LEKHORNS White.

all choice prize bred stock. A square deal, prices right. Write your wants. P. R. Plouts, R. 2, Bucyrus, Ohio.

THOROUGHBRED S. C. BROWN LEKHORN

Cockerels. Price for Jan. \$1.25 each. 4 for \$4.50. LEWIS T. OPPENLANDER, R. No. 4, Lansing, Mich.

Buff Rock Cockerels—Farm raised. Healthy, good

size, shape and color. From \$1.50 up. WILLIS S. MEADE, R. No. 3, Holly, Mich.

Big Business Barred Rocks

J. E. TAYLOR, Belding, Michigan.

COCKERELS FOR SALE—Light Brahma White

Wyandotte & B. P. Rocks, good ones, also pullets. E. D. BISHOP, Route 38, Lake Odessa, Michigan.

BUFF PLY. ROCK and S. C. Buff Leghorn Cockerels.

Exceptionally good stock at farmers' prices. Eggs in season. F. J. H. BURCH, Blaine, Michigan.

SILVER, GOLDEN and WHITE WYANDOTTES 100

White cockerels at \$2 and \$3 each. New circular after January 15th. C. W. Browning, Portland, Mich.

BARRED PLYMOUTH ROCK—Hurry! Hurry!

Write quick if you want your pick out of a bunch of Cockerels the large type, narrow barring, bred right sided by first Cockerel at Grand Rapids Poultry Show. A. J. GORDEN, Dorr, R. No. 2, Michigan.

Barred Rock Ckls.—Vigorous, farm raised, and

each two for \$5. J. A. BARNUM, Union City, Mich.

White Wyandotte Cockerels—A few good breeders

left. Write Soon. A. FRANKLIN SMITH, Ann Arbor, Michigan.

WE will have a few ckls. to sell from Barred and

White Rocks, Buff and White Orpingtons Black Minorcas and White Leghorns. Write for prices. H. H. KING, WILLIS, MICHIGAN.

DOGS.

TRAINED foxhounds and hound pups for hunting fox and coons. Also collies. Inclose 2-cent stamp. W. E. LECKY, Holmesville, Ohio.

YOU WRITE W. J. ROSS, Rochester, Michigan, for those beautiful sable and white Collie Puppies. of the finest breeding, and from stock workers.

MARKETS

DETROIT WHOLESALE MARKETS.

January 11, 1911.

Grains and Seeds.

Wheat.—The general advance of prices for wheat the past week rested upon reports that the supply at northwestern points was being drawn upon quite liberally by millers, causing reductions therein, that continued lack of precipitation in the southwest is damaging the crop, and that there is a general tendency of conservative dealers to take over the grain. The European visible supply has, however, 50,000,000 bushels more volume than the supply of a year ago. On Tuesday there was a decline, largely the result of the news from abroad and a natural reaction from the steady climb of the prices during recent sessions, but it only amounted to a small part of the advances made. The cutting down of receipts in the northwest and the call from millers who are even now paying premiums over May prices for good wheat, and who are being spurred on by the improved condition of the flour market, look encouraging to farmers having wheat to dispose of. One year ago the price for No. 2 red wheat was \$1.26 per bu. Quotations for the past week are:

	No. 2	No. 1	Red.	White.	May.	July.
Thursday			.97½	.96½	1.02½	.98
Friday			.98	.97	1.03	.98½
Saturday			.97½	.96½	1.02½	.97¾
Monday			.98½	.97½	1.03½	.98¾
Tuesday			.98	.97	1.03½	.98½
Wednesday			.99	.98	1.04½	.99½

Corn.—The position of the corn deal was shown on Tuesday when, with a weaker wheat deal the price for corn advanced. Report comes up from the south that Argentine's crop has been seriously damaged. This lent strength to the market here. Eastern buyers are out in corn districts of the corn belt getting consignments directly from farmers and local buyers. The price rules about a cent higher than a week ago. One year ago the quotations for No. 3 corn was 66½¢ per bu. Prices for the week are:

	No. 3	No. 3	Yellow.
Thursday			47½
Friday			47½
Saturday			47½
Monday			47½
Tuesday			48
Wednesday			48

Oats.—Comparatively little business is being done in oat circles and values are ruling on the same basis as last week. Stocks are decreasing although the total supplies at present are larger than a year ago. The price then was 49½¢ for standard oats. Quotations for the past week are:

	Standard.	No. 3	White.
Thursday		34½	34
Friday		34½	34
Saturday		34½	34
Monday		35	34½
Tuesday		35	34½
Wednesday		35½	35

Beans.—Locally there is nothing doing in the bean trade. Primary elevators are carrying on a fairly large business and prices are steady with those of a week ago. Nominal quotations are:

	Cash.	Jan.
Thursday		\$2.05
Friday		2.05
Saturday		2.05
Monday		2.05
Tuesday		2.05
Wednesday		2.05

Clover Seed.—While transactions are small there is a good volume of business being done in this product and prices of a week ago are still ruling with a firm tone to the trade. Following are the quotations for the past week:

	Prime Spot.	Mar.	Alsike.
Thursday		\$9.10	\$9.10
Friday		9.10	9.15
Saturday		9.10	9.15
Monday		9.10	9.15
Tuesday		9.10	9.15
Wednesday		9.10	9.15

Barley.—This grain is quiet and firm with good samples selling at \$1.80@1.85 per cwt.

Rye.—Offerings are small. Market is lower and dull. Quotation for No. 1 is 85¢ per bu.

Visible Supply of Grains.

	This week.	Last week.
Wheat	43,920,000	44,282,000
Corn	6,527,000	5,099,000
Oats	15,593,000	16,267,000
Rye	482,000	491,000
Barley	1,758,000	1,600,000

Flour, Feed, Provisions, Etc.

Flour.—The flour trade is easy with prices unchanged. Quotations are:

Clear		\$4.65
Straight		4.65
Patent Michigan		5.20
Ordinary Patent		4.75

Hay and Straw.—Hay values are steady. Quotations on baled hay in car lots f. o. b. Detroit are: No. 1 timothy, \$16.50@17; No. 2 timothy, \$15.50@16; clover, mixed, \$15.50@16; rye straw, \$7@7.50; wheat and oat straw, \$6@6.50 per ton.

Feed.—Prices were generally altered this week, bran and corn feeds being down while middlings are higher. Carlot prices on track are: Bran, \$25 per ton; coarse middlings, \$26; fine middlings, \$28; cracked corn, \$23; coarse corn meal, \$23; corn and oat chop, \$21 per ton.

Potatoes.—Consumers are satisfied with potato market conditions but sellers are neither pleased with the slow movement of tubers nor the prices paid. In car lots Michigan potatoes are selling at 37@40¢ per bu.

Provisions.—Family pork, \$23@24; mess pork, \$23; medium clear, \$21@22; smoked hams, 14½@15¢; briskets, 13½¢; shoulders, 12¢; picnic hams, 12¢; bacon, 18@19¢; pure lard in tierces, 11½¢; kettle rendered lard, 12½¢.

Dairy and Poultry Products.

Butter.—Dairy and creamery butter has suffered a decline. The market has been easy for some days but when the report came out regarding the unusually heavy holdings in storage the easiness developed into a slump that was felt in all the chief butter markets of the country. The local trade did not reduce prices as much as was done elsewhere. Extra creamery is quoted at 29½¢ per lb; first do., 27¢; dairy, 21¢; packing stock, 18¢ per lb.

Eggs.—The increased freedom of shipments from producers and country buyers is giving the trade an easier tone with values shaded a fraction from last week. Fresh eggs, case count, cases included, are now quoted at 30½¢ per dozen.

Poultry.—Chickens are about the only birds inquired for these days and the one change in quotations this past week has a slight advance for live birds of that kind. Market steady and easy. Quotations are: Dressed—Turkeys, 20@22¢; chickens, 13@14¢; fowls, 12@13¢; ducks, 16@18¢; geese, 14@15¢ per lb. Live—Spring chickens, 12@13¢; fowls, 10½@11¢; old roosters, 9¢; turkeys, 14@20¢; geese, 13@14¢; ducks, 14@15¢ per lb.

Cheese.—Michigan, 17¢; Michigan sharp, 17@18½¢; York state, 17½@18¢; York state sharp, 19¢; limburger, old, 16@17¢; Swiss domestic block, 20@22¢; cream brick, 17@18¢.

Dressed Pork.—Price is steady at 9@10¢ per lb.

Veal.—Market steady. Choice, 12@12½¢; ordinary, 8@10¢ per lb.

Fruits and Vegetables.

Rabbits.—Steady. Per dozen, \$1.50.

Apples.—Market is quiet and steady. Fancy greenings are quoted at \$5.25@5.50; Kings, \$5.25@5.50; Baldwins, \$4.50; Steel reds, \$6; ordinary grades, \$2.75@3 per bbl.

Cranberries.—Steady. Quoted at \$3.25 per bu.

Cabbage.—Steady. Selling at \$1.75 per bbl. for new.

Onions.—Easy and lower. 80@85¢ bu.

Honey.—Choice to fancy comb, 15@17¢ per lb.

OTHER MARKETS.

Grand Rapids.

Owing to the great scarcity, bean men are offering up to \$3 this week for red kidneys. White beans remain steady on \$1.75 basis. The potato situation is practically unchanged, dealers in the Greenville territory paying 28¢, but in other sections the range is 20@25¢. Outside markets are afraid of frozen stock and are not placing liberal orders. The poultry market is doing better. Chickens and fowls have advanced 1¢ to 2¢, and turkeys are also 1¢ higher, live stock bringing 19¢. Geese remain at 11¢ and ducks at 13¢. Veal is a little higher, bringing 6@11¢. Fresh eggs are worth 30@32¢. The butter market is weak and lower, creamery being off 1¢. Wheat is worth 93¢; new corn 48¢.

New York.

The lamb market opened slow today; most of the choice handy lambs selling \$6.40@6.50. Heavy lambs, \$5.50@5.75. Very dull on lambs weighing 50 to 90 lbs. Sheep market was active today; most of the choice ewes selling \$3.75@4. Wethers \$4.25@4.40.

We quote: Best handy lambs, \$6.40@6.50; heavy lambs, \$5.50@5.75; bucks, \$2.50@3.25; heavy ewes, \$3.75@4; yearlings, \$4.75@5.50; wethers, \$4@4.40; cull sheep, \$2.50@3.25; handy ewes, \$3.85@4; northern Michigan lambs, \$6@6.25; veals, choice to extra, \$10@10.50; fair to good do., \$7.50@10; heavy calves, \$5@6.50.

Chicago.

Wheat.—No. 2 red, 98½@99½¢; May, \$1.01¼; July, 96½¢ per bu.

Corn.—No. 2, 47@47½¢; May, 50½¢; July 51¢ per bu.

Oats.—No. 2 white, 34@34½¢; May, 35¢; July, 34½¢.

Barley.—Malting grades 80@97¢ per bu; feeding, 65@75¢.

Butter.—The market is sluggish, with prices from 1 to 4¢ lower. The general slump is due largely to the issuance of a report by the Chicago Butter and Egg Board showing that the holdings of storage butter in leading warehouses are nearly 25,000,000 lbs. greater than at this time last year. In addition, current receipts indicate that the present daily output is in excess of that of a year ago. Quotations now are: Creameries, 21@28¢; dairies, 21@24¢.

Eggs.—Top grades are 1¢ lower but trade is more active than in some weeks. The material reduction of storage stocks during December has had a bracing effect all along the line and the outlook for producers seems much improved. Quotations: Prime firsts, 31¢; firsts 29¢; at mark, cases included, 19½@22½¢ per doz. Potatoes.—Receipts so far this year are more than 100 cars behind those of the same period last year, which has served to give the market a firmer undertone. Former prices rule, with demand showing some improvement. Choice to fancy quoted at 43@45¢ per bu; fair to good, 38@40¢.

Beans.—This market is showing improvement, all offerings being closely looked after. Pea beans have advanced nearly 10¢ in the past two weeks and red kidneys are also higher. Pea beans, choice hand-picked, are quoted at \$2.15@2.18 per bu; prime, \$2.05@2.10; red kidneys, \$2.75@3.50.

Hay and Straw.—The hay market is recovering from the recent slump and is reported strong with receipts running below those of a year ago. Rye and wheat straw are lower. Quotations now are: Choice timothy, \$19@19.50; No. 1 timothy, \$17.50@18.50; No. 2 do. and No. 1

mixed, \$16@17; No. 3 do. and No. 2 mixed, \$11.50@15.50; rye straw, \$7@7.50; oat straw, \$7@7.50; wheat straw, \$6@6.50 per ton.

Boston.

Wool.—While there is more hustling about the wool stores than for the past few weeks the attention of buyers is largely given to territory offerings. Of the fleeces, ¼-bloods are about the only grade that can boast of having an attractive interest for buyers. Prices in some cases show a tendency to shade from former values. Following are the leading domestic quotations: Ohio and Pennsylvania fleeces—Delaine washed 34¢; XX, 32¢; fine unmerchanted, 25@26¢; ¼-blood combing, 29@30¢; ¾-blood combing, 29@30¢; ¼-blood combing, 27½@28¢; delaine unwashed, 26¼@27¢; fine unwashed, 22@23¢. Michigan, Wisconsin and New York fleeces—Fine unwashed, 20@21¢; delaine unwashed, 26@27¢; ½-blood unwashed, 28@29¢; ¾-blood unwashed, 28@29¢. Kentucky, Indiana and Missouri—¾-blood, 29@30¢; ¼-blood, 27@28¢.

Elgin.

Butter.—Trade firm at 29¢ per lb., which is 1¢ below the quotation of last week. Output for the week, 574,600 lbs. as compared with 593,700 lbs. for the previous week.

THE LIVE STOCK MARKETS.

Buffalo.

January 9, 1911.

(Special report by Dunning & Stevens, New York Central Stock Yards, East Buffalo, N. Y.)

Receipts of stock here today as follows: Cattle, 120 cars; hogs, 22,400; sheep and lambs, 36,000; calves, 1,000.

With 120 cars of cattle on our market today, as a general rule, the quality of the cattle was very common, in fact, there was not a straight load of prime cattle on the market. Butcher cattle of all descriptions sold from 10@20¢ per hundred weight higher than last Monday.

We quote: Best 1,300 to 1,400-lb. steers \$6.50@6.75; good prime 1,200 to 1,300-lb. do., \$5.75@6.40; best 1,100 to 1,200-lb. shipping steers, \$5.50@6.25; medium butcher steers, 1,000 to 1,100 lbs., \$5.50@6; light butcher steers, \$4.85@5.25; best fat cows, \$4.75@5.25; fair to good do., \$3.85@4.50; common to medium do., \$3.50@3.75; trimmers, \$2.75@3.25; best fat heifers, \$5.50@6; good do., \$4.75@5.25; fair to good do., \$4.25@4.75; stock heifers, \$3.25@3.50; best feeding steers, dehorned, \$4.50@4.75; medium to good feeding steers \$4@4.25; stockers, all grades, \$3.75@4; best bulls, \$5@5.35; bologna bulls, \$4.25@4.75; stock bulls, \$4@4.25; best milkers and springers, \$5@6; good to best do., \$4@5; common to good do., \$2.50@3.5.

Impossible to sell late springers at any kind of satisfactory prices; have to be sold by the pound.

140 double decks of hogs on sale today; market about 15¢ per hundred weight lower than Saturday's close; closing steady at the opening prices, and all selling that were yarded in time for the market. We quote: Mixed, medium and heavy, \$8.25@8.35; yorkers, \$8.30@8.40, mostly \$8.35; pigs, \$8.60@8.75; roughs, \$7.25@7.35; stags, \$6@6.75.

The lamb market opened slow today; most of the choice handy lambs selling \$6.40@6.50. Heavy lambs, \$5.50@5.75. Very dull on lambs weighing 50 to 90 lbs. Sheep market was active today; most of the choice ewes selling \$3.75@4. Wethers \$4.25@4.40.

We quote: Best handy lambs, \$6.40@6.50; heavy lambs, \$5.50@5.75; bucks, \$2.50@3.25; heavy ewes, \$3.75@4; yearlings, \$4.75@5.50; wethers, \$4@4.40; cull sheep, \$2.50@3.25; handy ewes, \$3.85@4; northern Michigan lambs, \$6@6.25; veals, choice to extra, \$10@10.50; fair to good do., \$7.50@10; heavy calves, \$5@6.50.

Chicago.

January 9, 1911.

Cattle. Hogs. Sheep. Received today 36,000 43,000 35,000 Same day last year, 21,797 43,497 20,129 Received last week, 60,482 129,895 84,254 Same week last year, 53,404 113,610 80,353

The week starts off with too generous offerings of cattle, and trade is not very brisk, although butcher stock is moving very well at steady to 10¢ lower prices. Steers will average all of a dime lower. This follows last week's break of 10@25¢. Sales of fat, good to choice 1,300 to 1,500-lb. steers are made largely at \$6.15@6.60. Hogs broke 10¢ this morning, following last week's advance of 20@30¢. Sales ranged at \$7.75@8.15, with a rally later and rumors of a few sales at \$8.17½@8.20. Light weights and medium butcher hogs sold the highest, and heavy hogs sold unsatisfactorily. Prices look good for hogs, when it is recalled that two years ago they sold at \$5.40@6.30 and three years ago at \$4.10@4.47½. Last week saw advances of 25¢ in lambs and 10@15¢ in aged sheep, while yearlings sold 10@15¢ higher. Tops were \$6.65 for lambs, \$5.85 for yearlings, \$4.60 for wethers and \$4.15 for ewes. The market today was fairly active, but 10@15¢ lower early and rather more than that later. Lambs went at \$5@6.50, with a reported early sale at \$6.60. Wethers sold at \$3.65@4.35, fat heavy export wethers going at the top figure, while ewes sold at \$2.50@4.10, holding their ground very well. Yearlings were quotable at \$4.50@5.65, heavy going the lowest. Perhaps some fancy yearlings might go higher, it being usually uncertain just what a buyer might pay, and the same is true of prime wethers, but the general market is lower. Cattle started off last week with only moderate offerings and an active general demand, in spite of the fact that the day was largely observed as a holiday throughout the country. By the middle of the week the general trade became much slower, and while the receipts were not heavy, weakness was developed. Heavy beefs leading off in a decline in prices. Beef steers sold during the week

chiefly at \$5.50@6.75, with the better class going at \$6.50@7.10 and heavy steers out-selling yearlings, contrary to recent experience. Good to fancy yearlings steers sold at \$6.50@6.90, and the commoner lots of light-weight steers found buyers at \$4.65@5.50, no great trading taking place much below \$5.50. Packers were partial to pretty good quality, 1,150 to 1,250-lb. steers costing around \$5.65@6, and as a rule there was a much larger demand for medium-priced cattle than for the highest-priced steers, this being attributable to the popular demand for light cuts of beef that do not come too high. The cold weather and snow storms made slow work in getting cattle moved to market, and stock trains were greatly delayed in many instances. Cows and heifers were in very fair demand whenever the general trade was animated, sales being made at \$3.35@6.50, while canners went at \$2.25@2.80 cutters at \$2.85@3.30 and bulls at \$3.25@5.50. There was as large a traffic in stockers and feeders as could be expected with moderate offerings and strong competition for such stock from the packers. Stockers were sold at \$3.60@5.40 and feeders usually at \$5@5.85. These prices look pretty steep, and many farmers are putting off buying from a month and a half to two months, believing that to be the better policy. Calves have sold freely at \$3.50@9.75, per 100 lbs., and milkers and springers sold moderately at \$30@65 per head, the best demand coming from eastern buyers, and smaller offerings resulted in prices averaging \$2.50 or more higher.

Hogs are valuable property these times and seem bound to continue so, for the long-talked-of supplies of matured hogs are not forthcoming. The past week saw only moderate supplies here and at other western markets of any prominence, while eastern shippers took hold so freely that prices were bid up to the highest point seen in many weeks. There were reductions, of course, but prices rallied, and sellers had good reason to feel well pleased with the situation. Pigs were especially scarce, and choice lots sold at times as much as 25¢ higher than the choicest matured hogs. The average quality of the hogs marketed continues unusually choice, and hogs are selling chiefly within a narrow range of prices. Light and medium-weight hogs have topped the market and heavy hogs went at a considerable discount from top quotations. Big packing hogs weighing 350 lbs. and over were not wanted to any great extent and were discriminated against to a marked degree by buyers. Iowa railroads have been discouraging country shipments of hogs during the recent cold spell, and this kept down supplies.

Sheep and lambs were in a stronger position last week than a short time ago, with a much better outlet and pretty good supplies for this season of the year. Some extremely satisfactory sales of fat consignments took place at different times, fat, medium-weight lambs being the favorites, followed by prime yearling wethers on the lamb order. The small recent gap between shorn and woolled flocks widened out materially, the value of the fleece being taken into account in buyers fixing a price. Cold and stormy weather tended to make slow railroad service, and many stock trains were very late in showing up in the stock yards. Colorado-fed lambs from Fort Collins showed up a month earlier than usual, and early in the week a shipment of 480 head that tipped the scales at 78 lbs. brought \$6.60. During the latter part of the week there was less urgent buying, and prices suffered declines. Fair fleshed returned western range lambs that had been partly fattened were taken by a country buyer at \$6.10, which was the highest price paid for feeding lambs since late in October.

Horses were in much larger supply last week, and there was a good attendance of local and outside buyers, trade becoming animated once more after the extreme dullness of the holiday period. The principal demand was for the better class of drafters at \$225@300 per head, with the commoner ones selling down to \$175@200. Chunks weighing 1,200 to 1,400 lbs. sold at \$150@185.

LIVE STOCK NOTES.

The new year has started off well for owners of hogs, and with every prospect of continued high prices, there is no reason for hurrying underweight hogs to market. Since January 1 there has been a substantial rise in prices, which is due to the meager receipts at Chicago and other western markets and to a lively demand for choice droves in the Chicago market to forward to eastern packing points, the eastern supply being very light. On the Monday after New Year's Chicago received but 28,382 hogs and shipped east 9,444 hogs, leaving the local packers very few swine to slaughter.

Chicago's aggregate stocks of cured meats and lard on January 1 amounted to 67,181,893 lbs., compared with 50,744,246 lbs. a month earlier and 67,304,664 lbs. a year ago. The increase in stocks during December was due to the contraction of consumption resulting from unusually high prices for bacon, hams, etc.

Hogs started off at the beginning of 1910 with the best grade selling in the Chicago market at \$8.50 per 100 lbs., being about \$2.50 higher than at the opening of 1909, and there was a highly spectacular boom that reached its culmination late in March, when fancy lots topped the market at \$11.20, a record-breaking price. Not until July did the best grade of swine sell under \$9, and after sensational fluctuations there was a September rally to \$10.10. Thereafter the packers got a grip on the market, eastern shippers failing to purchase with their accustomed liberality, and there were big slumps in prices. Late in November packers put up plenty of hogs below \$7, the lowest time of the year, but the close of 1910 saw hogs selling at \$7.60@8, the bulk selling within a very narrow range. Hogs have been coming to market in unusually superior quality, with their average weights much heavier than in former years.

THIS IS THE FIRST EDITION.

In the first edition the Detroit Live Stock markets are reports of last week; all other markets are right up to date. Thursday's Detroit Live Stock markets are given in the last edition. The first edition is mailed Thursday the last edition Friday morning. The first edition is mailed to those who care more to get the paper early than they do for Thursday's Detroit Live Stock market report. You may have any edition desired. Subscribers may change from one edition to another by dropping us a card to that effect.

DETROIT LIVE STOCK MARKETS.

Thursday's Market.
January 5, 1911.

Cattle.

Receipts, 573. Market 10@20c higher than last Thursday; active; arrivals all very late.

We quote: Best steers and heifers, \$5.50@6; steers and heifers, 1,000 to 1,200, \$5@5.25; steers and heifers, 800 to 1,000, \$4.75@5; steers and heifers that are fat, 500 to 700, \$4.25@5; choice fat cows, \$4.50@4.75; good fat cows, \$4@4.25; common cows, \$3.25@3.75; canners, \$2.75@3; choice heavy bulls, \$4.50@4.75; fair to good bolognas, bulls, \$4@4.25; choice feeding steers, 800 to 1,000, \$4.50@5; fair feeding steers 800 to 1,000, \$4@4.50; choice stockers, 500 to 700, \$4@4.50; fair stockers, 500 to 700, \$3.50@3.75; stock heifers, \$3.25@3.50; milkers, large, young, medium age, \$4@50; common milkers, \$2.50@3.50.

Bishop, B. & H. sold Hammond, S. & Co. 2 steers av 790 at \$4.35; to Fromm 4 cows av 925 at \$3.50; to Parker, W. & Co. 5 do av 1,140 at \$4.15. 3 do av 940 at \$3.25; to Sullivan P. Co. 13 butchers av 646 at \$4.25, 9 do av 746 at \$4.75, 3 cows av 950 at \$3.25; to Rattowsky 1 do weighing 1,150 at \$4.60, 1 bull weighing 1,150 at \$4.50; to Cooke 1 steer weighing 1,000 at \$5.50; to Hammond, S. & Co. 7 cows av 908 at \$3.25, 9 butchers av 708 at \$4.50, 1 bull weighing 1,000 at \$4.50, 4 cows av 980 at \$3.25, 2 do av 965 at \$3.75, 2 heifers av 810 at \$4.50, 7 cows av 903 at \$3.25, 2 do av 590 at \$3.25; to Mich. B. Co. 2 do av \$55 at \$3, 1 do weighing 1,050 at \$4.50; to Kamman 3 steers av 910 at \$5.25, 2 do av 640 at \$4; to Thompson Bros. 11 butchers av 886 at \$4.35, 1 cow weighing 600 at \$3; to Sullivan P. Co. 2 steers av 1,100 at \$5.50.

Roe Com. Co. sold Newton B. Co. 3 cows av 1,133 at \$4.25, 3 butchers av 617 at \$4.50, 1 cow weighing 1,020 at \$4, 1 bull weighing 1,280 at \$4.50, 1 do weighing 1,260 at \$4.50.

Spicer & R. sold Sullivan P. Co. 1 bull weighing 1,250 at \$4.75, 2 steers av 805 at \$4.75, 3 do av 963 at \$5.75, 1 do weighing 440 at \$4.25, 1 cow weighing 1,010 at \$3.25.

Haley & M. sold Hammond, S. & Co. 5 cows av 930 at \$3.30, 1 bull weighing 1,180 at \$4.50, 3 butchers av 543 at \$4.50, 2 cows av 840 at \$3.40, 1 do weighing 1,040 at \$3.85; to Sullivan P. Co. 10 do av 1,155 at \$4.15; to Thompson Bros. 2 do av 1,040 at \$4.25.

Robb sold Hammond, S. & Co. 2 steers av 1,175 at \$6, 7 do av 780 at \$4.75.

Veal Calves.

Receipts, 338. Market 50c higher than last week. Best, \$9@9.50; others, \$4@8.75. Milch cows and springers steady.

Spicer & R. sold Mich. B. Co. 8 av 135 at \$8.75; to Parker, W. & Co. 10 av 137 at \$8.75, 16 av 130 at \$8.25, 8 av 140 at \$8, 9 av 120 at \$7.75.

Roe Com. Co. sold Newton B. Co. 5 av 150 at \$9.50.

Haley & M. sold Parker, W. & Co. 6 av 320 at \$4, 7 av 145 at \$8.25, 4 av 110 at \$8.50, 2 av 290 at \$4, 9 av 140 at \$8.50; to Goose 5 av 145 at \$8.50, 1 weighing 100 at \$5; to Newton B. Co. 1 weighing 140 at \$8, 5 av 160 at \$9.50.

Mayer sold McGuire 3 av 160 at \$9.50.

Long sold same 6 av 165 at \$9.50.

Kendall sold same 9 av 160 at \$9.50.

Bishop, B. & H. sold Newton B. Co. 4 av 130 at \$8.75, 2 av 120 at \$8.50; to Sullivan P. Co. 3 av 160 at \$9, 3 av 150 at \$9.50; to Parker, W. & Co. 2 av 145 at \$9.25, 7 av 120 at \$9, 2 av 130 at \$9.50, 3 av 150 at \$9.50; to Goose 9 av 118 at \$8, 2 av 140 at \$8.25.

Sheep and Lambs.

Receipts, 2,903. Lambs 15@25c higher than last week on light grades; heavy and sheep no higher. Best lambs, \$6@6.25; heavy lambs, \$5@5.25; light to common lambs, \$4.50@5.50; fair to good sheep \$3.50@4; culls and common, \$2.50@3.

Spicer & R. sold Newton B. Co. 57 lambs av 85 at \$5.65, 40 do av 80 at \$6.15, 1 do weighing 80 at \$4.50; to Mich. B. Co. 90 do av 75 at \$6.15, 3 sheep av 95 at \$2.50, 105 lambs av 90 at \$6.25; to Hammond S. & Co. 11 do av 85 at \$6; to Fitzpatrick Bros. 65 do av 70 at \$5.75, 7 sheep av 90 at \$3; to Barlage 12 do av 50 at \$5.10.

Taggart sold Hammond, S. & Co. 4 sheep av 105 at \$3.50, 29 lambs av 70 at \$6.10.

Bishop, B. & H. sold Newton B. Co. 158 lambs av 85 at \$6; to Swift & Co. 176 do av 80 at \$6.25, 10 do av 93 at \$6, 48 do av 90 at \$5.50, 14 sheep av 115 at \$3.35, 7 do av 115 at \$3.25, 10 do av 92 at \$2.75, 43 do av 80 at \$4.50, 7 do av 105 at \$3.25, 25 lambs av 50 at \$5, 50 sheep av 95 at \$3.40, 16 lambs av 45 at \$4.50; to Sullivan P. Co. 19 sheep av 80 at \$2.75, 13 do av 90 at \$3, 13 lambs av 65 at \$5.50; to Swift & Co. 208 do av 80 at \$6.25, 10 do av 98 at \$6; to Fitzpatrick Bros. 8 do av 100 at \$5.50, 18 sheep av 110 at \$3.25; to Nagle P. Co. 182 lambs av 95 at \$5.50, 142 do av 87 at \$6.25; to Sullivan P. Co. 57 do av 80 at \$6; to Fitzpatrick Bros. 12 sheep av 85 at \$3, 14 do av 120 at \$3.75.

Haley & M. sold Stocker 11 lambs av 85 at \$6.25; to Goose 109 sheep av 85 at \$2.85; to Breitenbeck 19 do av 105 at \$3.25, 20 lambs av 80 at \$5.75, 8 do av 90 at \$5.50.

Roe Com. Co. sold Young 19 sheep av 140 at \$3, 29 lambs av 77 at \$6.

Hogs.

Receipts, 4,075. Market 10c lower than Wednesday; 35@40c higher than last Thursday.

Range of prices: Light to good butchers, \$8.15@8.20; pigs, \$8.15; light yorkers, \$8.15; stags one-third off.

Bishop, B. & H. sold Hammond, S. & Co. 2,150 av 180 at \$8.20, 225 av 150 at \$8.15.

Sundry shippers sold same 416 av 155 at \$8.15.

Spicer & R. sold Parker, W. & Co. 615 av 190 at \$8.20.

Haley & M. sold same 450 av 180 at \$8.20.

Roe Com. Co. sold same 420 av 200 at \$8.20.

Friday's Market.

December 30, 1910.

Cattle.

Receipts this week, 1,039 last week, \$19. Market steady at Thursday's prices.

We quote: Extra dry-fed steers and heifers, \$5.75@6; steers and heifers, 1,000 to 1,200, \$5@5.25; fair feeding steers, 800 to 1,000, \$4.25@4.75; do, 800 to 1,000, \$4.75@5.25; steers and heifers that are fat, 500 to 700, \$4.50@4.75; choice fat cows, \$4.50; good fat cows, \$3.75@4.25; common cows, \$3.25@3.50; canners, \$2.50@3; choice heavy bulls, \$4.50; fair to good bologna bulls, \$4@4.25; choice feeding steers, 800 to 1,000, \$4@4.50; choice stockers, 500 to 700, \$4@4.25; fair stockers, 500 to 700, \$3.25@3.75; stock heifers, \$3@3.50; milkers, large, young, medium age, \$4@50; common milkers, \$2.50@3.50.

Veal Calves.

Receipts this week, 503; last week, 774. Market steady at Thursday's prices. Best, \$8.75@9; others, \$4@8.50.

Milch cows and springers, steady for good; common dull.

Sheep and Lambs.

Receipts this week, 6,750; last week, 3,634. Market dull at Thursday's close. Best lambs, \$5.75; heavy lambs, \$5@5.25; light to common lambs, \$4.50@5.50; fair to good sheep, \$3.50@4; culls and common, \$2.50@3.

Hogs.

Receipts this week, 5,639; last week, 8,095. Market, 10@15c higher than on Thursday. Range of prices: Light to good butchers, \$7.90; pigs, \$7.90; light yorkers, \$7.90; stags one-third off.

During several months last year large numbers of small packers throughout the country remained out of the hog market, because of the abnormally high prices. Lately they have started up again, and no end of small country butchers are now buying swine, thereby greatly swelling the outlet for supplies. Farmers made more money from raising hogs last year than butchers made in slaughtering them. A great deal of new corn is being fed to growing young hogs, and with corn selling down to 35 cents per bushel at Iowa country stations, there is an unusual incentive for using it for fattening swine at the present time. Recent sales of corn have been made in the Chicago market about 16c per bushel lower than a year ago.

ADDITIONAL VETERINARY.

Suppurative Lymphatic Trouble.—Have a cow that is in a critical condition and would like to know if anything can be done for her to make her well. I bought her some four weeks after she calved and three weeks later lumps as large as goose eggs appeared on different parts of her body; she is also stiff and has bunches under throat and jaw, besides several about the root of tail. She has lost flesh and strength lately and is now down and unable to get up. Our local Vet. has never seen a case of this kind. S. Z. C. Ashley, Mich.—Your cow may perhaps be suffering from generalized tuberculosis. But I am more inclined to believe that it is suppurative lymphatic trouble and she is doubtless incurable.

Sluggish kidneys—Stringy Milk.—Have a horse that passes thick, milky appearing urine, but he has a good appetite. I also have a cow that is in fairly good condition, but her milk becomes lumpy and stringy soon after it stands or is heated. H. H. S., Fostoria, Mich.—Give your horse a teaspoonful of powdered saltpeter and a tablespoonful of powdered rosin at a dose in feed twice a day for a few days, then give it once a day. Perhaps you had better dry your cow, as many cows give that sort of milk some time before calving. If you care to continue milking her give her 1 oz. hyposulphite soda at a dose in feed two or three times a day. There is no danger in using her milk.

Partial Loss of Power.—Part of the time one of my shoats has rather poor control of his hind quarters. E. A. C., Hillsdale, Mich.—You are feeding your shoat too much corn and not enough of oats, oil meal and roots; also give him a teaspoonful of air-slaked lime at a dose in feed two or three times a day.

Abscess on Jaw.—A large bunch came on jaw of hog, which opened and discharged a large quantity of offensive pus then a tumor-like substance grew out of wound and the bunch continues to grow larger. A. R., Saline, Mich.—Burn the fungus with a red hot iron two or three times a week and apply equal parts of boracic acid and powdered alum once or twice a day.

Slavering.—My 16-year-old mare seems to have an overstock of saliva. I had her teeth floated by a Vet., but it failed to help her. R. E. B., Grand Rapids, Mich.—Dissolve 1 oz. of alum in a quart of water and wash out mouth two or three times a day, using not more than two or three ounces at a time.

Warts.—I wish you would publish for the benefit of your readers my home remedy for the removal of warts. H. D. W., Holton, Mich.—You are quite right about

effectiveness of vinegar as a wart remedy. As you perhaps know, acetic acid is generally prescribed and a good quality of vinegar is largely composed of acetic acid.

Partial Loss of Power.—One month ago my sow had pigs; she seemed to have a partial loss of control of hind legs, but soon recovered after farrowing, but her pigs all died. I applied turpentine to the back of another sow and she farrowed 30 days too soon and of course the pigs were all dead. Did I make a mistake in using turpentine? D. McK., Milan, Mich.—Yes, you should not have used turpentine. Feed your sow less corn, more oats, oil meal and roots; also give her some air-slaked lime.

Lice.—My chickens seem to be troubled with leg weakness and some of them have a discharge from eyes and nose. The sight of some of them is affected and their liver is covered with spots. F. L. B., Kalamazoo, Mich.—Examine your poultry for lice and if they are lousy apply any of the lice killers that are regularly advertised in this paper, and wet nose and eyes with one part peroxide-hydrogen and five parts water twice a day. I also suggest that you clean your poultry house thoroughly, also whitewash and disinfect it; furthermore, kill and burn all the worst cases.

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HOME AND YOUTH

WELCOME THE NEW YEAR.

BY MILDRED M. NORTH.

The old year brought gladness, the old year brought joy;
The old year brought sadness and things to annoy;
The old year brought pleasures and friends that were true;
Good-by to the old year, we welcome the new.

The old year brought troubles, but troubles will end;
The old year brought heartaches, but God is our friend;
The old year brought burdens, and strength to uphold;
We welcome the new year, good-by to the old.

AMUSEMENTS FOR WINTER EVENINGS.

BY EVA MILLS ANDERSON.

It would be a fine thing if in every family there were some member who might act as purveyor of amusements. Many writers urge this duty on the mother of the household and it would probably be well if she were able to do it. But after mother has worked hard all day she is simply too tired to have an active body or brain in the evening. Besides, very often she must at night mend Johnny's torn coat or Susie's dress so that he or she may go whole to school the next day.

Sometimes the teacher of the district school has the talent and the missionary spirit to help out the amusements of the neighborhood and sometimes she hasn't, or considers that she has done all she is paid for when she does her school work. Such teachers will never occupy the place in the memory of any of their pupils that Whittier has given to his teacher in "Snowbound."

If the members of the family can be induced to read, it should be the duty and privilege of each in turn. It will be well to select something entertaining instead of seeking the purely instructive. If poetry, and poetry is so much neglected at present that it may be a novelty to read it, some poem telling a story is most likely to be successful. Such a choice as "Enoch Arden," "Evangeline," "Miles Standish," "Snowbound," "Lady of the Lake," is sure to be found interesting.

We used to take delight in acting these poems and the stories we read. It is wonderful how many points which escape attention in reading are developed when a story comes to be acted. We used to play Louisa Alcott's books time after time. It often happened that one actor played many parts, owing to the paucity of the troupe, but that was all the more fun. I remember with almost the old enthusiasm how delighted we were when we got father to act the part of Professor Baar, and how appropriate we thought his old dressing gown for the costume. When a family once gets interested in this amusement they entertain themselves, and often others, spontaneously.

Another kind of reading that is useful,

practical and interesting is the perusal of some book on etiquette. Such treatises used to be scorned as beneath the notice of sensible people but they are no longer so considered and there are many excellent books on this topic now before the public.

Did you know that when the Willard family were living on that frontier farm, their early home, in southern Wisconsin, where they had no visitors or even neighbors, Madame Willard carefully instructed her children in proper social observances, including introductions.

"I don't see the use of our learning that," said Frances; "there isn't anybody to introduce."

"But there will be some day," answered her wise mother.

In later days Frances Willard "stood before kings." Do you not believe she then thanked the mother who had trained her so early in good manners that they had become natural to her?

Another game we used to play was Geography. A map hung on the wall and, during the day, each member of the family tried to find some name which would not be easily discerned by the others. After the supper work was over the map was put in the best possible light and each gave out the name he or she had selected, telling whether it was a town, river, mountain or some other object on the map. Every name found was counted as one credit to the finder. When one of us had ten credits mother baked him or her a cake, and when mother got the credits—no unusual occurrence—we girls had to make her a cake and the boys performed some service she designated. As the sweetmeats went into the family supply they only served to distribute the labor. I read not long ago that the students who apply for admission to colleges and universities are woefully deficient in geography, and I thought that if they played this game as we used to do they might have had better standings. I must mention that we borrowed such maps as we did not own, from the school district. That was much better in my opinion than having them rolled up in musty idleness, as is so often their fate.

We often acted charades, and the neighbor boys and girls used to be very glad to join us in these. But I think no games gave us more pleasure, or have been of more benefit, than the old-fashioned games of authors and quotations. Every family should have and use several sets of these cards. As for regular playing cards, we never had them in our home and we never missed them. We all learned to play them by associating with our friends who did play, but we all felt that we knew how to entertain ourselves better without them.

It adds immensely to the general enjoyment if all, elders as well as youngsters, take part in the amusements. Nothing can make parents more the companions of their children than for the father and mother to take part in the games. That is a big factor in keeping the boys and girls at home, which is just as much a problem for people in town as it is for people in the country, if not a greater one for the former than the latter.

THE GATES OF BAKAPPLEIN

By ELIZABETH JEWETT BROWN and SUSAN JEWETT HOWE.

Synopsis of Preceding Chapters.—Ned and Merle Jackson, son and daughter of wealthy parents, become dependent, while yet in school, through the business reverses of their father shortly before his death. On their own solicitation they become members of the household of a cousin, Searls Jackson, possessor of the old Jackson homestead, a fine large New England estate. Here Merle has the care of Yvonne, the little adopted daughter, while Ned is given an opportunity to learn to work. The latter, however, regards manual labor degrading and attempts to conceal his identity when friends from the city, the Amidons, visit the farm. At the suggestion of Mr. Amidon, Merle plans to join the earners by serving refreshments of baked apples and cream to the numerous automobile parties which frequent the section, in consequence of which the old home is named Bakapplein. Near by is Old Beverly, the ancestral home of Searls' Jackson's wife, Nell, and now in the hands of Manning Beverly and his sister Madaline, Manning's wife having recently died. Searls Jackson has entered public life and is a busy man, leaving the farm operations largely in the hands of his foreman, Ben Baker, under whose authority Ned grows discontented. The climax is reached when Ned and Young Joe Green, during the ice harvest, become incapacitated through indulgence in hard cider and the latter fails to get home with his team.

Chapter 14.—(Continued).

An idea came to her that perhaps he

had gone to Old Beverly with his load by mistake, although that ice-house had been filled. She went back to the house and telephoned there several times but could get no answer; then, leaving Yvonne with Mary, who was cooking the supper, she hurried across the road and followed the sled tracks across the field until she came to the pond.

The moon was rising in dazzling brilliancy in the eastern sky, and by its light she sped across the narrow pond, skirting the edges of the black water where the cakes of ice had been removed, until she reached the opposite side where fresh tracks in the snow showed that a team had been driven to the west towards Old Beverly.

She scarcely realized the biting cold, so fearful was she that something had happened to the team and to Joe. Dreading the consequences to Ned if anything was wrong she hurried on, feeling no fear for herself as she followed the track through the fringe of woods, across the flats, past the knolls, and then to the bar-way which opened into the lane leading up to the Beverly farmyard. But before she reached it she was conscious that a dark object was breaking the

glimmering white of the snowy road at the entrance to the lane. She knew it must be the missing team, and she wondered why it was standing still.

Nearing it she began to call Joe's name. There was no response from him, but an almost human note answered her in the shrill neighing of the horses, which she found stalled across the bars where Joe had drunkenly driven them. The sled had struck the post and could go no farther; it had tipped to one side, part of the ice had slid off, but just out of range lay Young Joe Green, face down in the snow, wrapped in drunken slumber.

The horses were shaking with the cold and restlessly awaiting release, but Merle could do nothing for them, caught as they were over the bars; instead, she turned her attention to the drunken boy, turning him over with a strength born of desperation to find if he was still alive. Then she pulled off her heavy coat and threw it over him, adding a heavy blanket which she jerked out from under a cake of ice, her one idea being to keep him from freezing to death until she could get help.

She dared not stand still, as the bitter cold was piercing her very bones. The lights were gleaming from the eastern windows of Old Beverly and she ran towards them with the speed of an athlete, falling headlong into the east door when Manning, startled by her loud knocking, open it abruptly.

He was holding the baby in his arms, but he lifted Merle to her feet and half carried her into the kitchen to the warmth of the big range. "What is it, Merle?" he asked in surprise before she could catch her breath. "What is wrong at Bakapplein? What has happened to Ned?"

He put the child into the grandfather's arms as she gasped out her story. "You had better stay here," he said. "You will freeze to death if you go out again, and afterwards I will drive you home."

She shook her head. "I can't. I must go, too, for I don't dare stay away from Ned. He may be in the same shape for all I know."

"Very well," he agreed, going to the clothespress and taking down a heavy coat which belonged to his sister Madaline. "I will hitch my horse to the sled so as to put Joe on that; you can drive him home then, and I will take care of the team." He was putting on his heavy coat and cap while talking, and a few moments later she heard his shout that he was ready.

She sank down exhausted on the bottom of the sled as he drove rapidly down the lane. It seemed to her as if it had been hours since she had found the boy lying there, but in reality it was but a few moments until she was again by his side, and Manning, with all his strength, was trying to lift the unconscious fellow from the ground.

"It is no use," he said panting. "Young Joe is heavier than I am; there is only one thing to be done, and it is lucky I brought an axe. You will have to go for help."

With strong arms and well directed blows he cut away the bars and pulled out the broken pieces from between the horses' legs so he could get them to back the ice sled away from the gap in the wall. Then he led his own horse through so that Merle could drive back to the Jackson farm for help.

She made the detour of the pond and was part way back through the Jackson fields when she met Old Joe, running towards her as fast as his unwieldy legs could carry him. Sobered by the shock of learning that his boy had not returned with the team, he had started to look for him. Meeting Merle he jumped on the sled and hurried back with her, muttering incoherently his terrible fear that he should find his boy dead.

She tried to comfort him with a few words, but the old man was beside himself with grief; he moaned like a child, alternately cursing himself and muttering wild prayers that his boy should live until they reached where he lay; then, completely sobered by finding him lying as if dead, he added his great strength to Manning's and together they lifted him on the sled to take him back to his home.

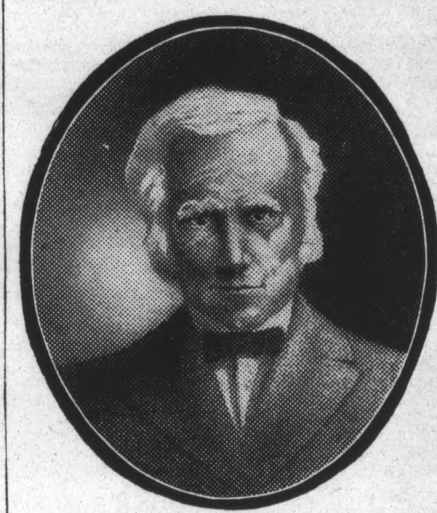
Manning took charge of the team, so Merle had to go with Joe, who knelt by the side of his son, chafing his hands with snow while his great body rocked with sobs. "He is dead," he moaned, "and it's the drink that done it. It will kill the old woman; fer she allers loved him so. He was the fust born, and her heart has been wropped up in him; but I thought it wuz smart when he wuz a little feller

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that he could drink his cider like a man," he rambled on, more to himself than to Merle who listened, awe struck, as the poor old drunkard sorrowed over his son. "He tuck it frum me, he tuk it frum me," he repeated over and over again, his heavy voice trembling with the agony which was rending his heart. "I never thort cider could hurt nobody, and it wuz so cold today that I had a leetle whisky to warm us besides. Do you think he's dead?" he asked the girl piteously as she drove swiftly onward. "Do you think he will die afore Dr. Dickson can git to him? Manning wuz goin' to telefoam to him to come, but I know its no use, and it will kill the old woman; it will kill her dead," he sobbed as he sung in agony over Young Joe. "It will kill her dead to have Joe come home like this, but, so help me God," he raised himself upon his knees in the sled and the moon lit his heavy purple face with golden light. "So help me God, I'll never tech another drop so long as I live. It has learnt me a lesson, fer he tuck it frum me—he tuck it frum me."

Merle drove around to the back door of his home. Lifting his son in his arms as if he was a child Old Joe staggered into the house with him. As the girl drove away she heard his mother's heart-broken cry of amazement and terror and grief ring out on the night air.

Chilled to the bone, yet she was not conscious of her own sufferings as she drove back to her home. Manning met her at the horse block and lifted her out. "Dr. Dickson has already started," he assured her; "the horses will be all right, so do not worry. I do not think that Young Joe will die."

"But Ned," she gasped, "I am thinking of him! Where is he?" her eyes searching the lighted windows for a glimpse of his face.

Ben had come out on the piazza and he answered gruffly: "Fell down drunk in the barn and we got him to bed. And I'll tell you this, Miss Merle, there'll be the devil to pay when Searls gits home, and don't you forgit it."

Chapter V.—Just the Same Old Story.

The sorrow and shame which fell on Merle Jackson that night came as a heavy frost in June comes upon the green, tender vegetation of the year which has never felt a colder breath than the chill of early mornings—blighting if not killing it, so that it never again is quite the same as it was before. And, after she had dragged herself from Ned's bedroom where Raymond and Ben had uncereemoniously carried him from the barn, she was startled by her own reflection in the glass. In her young face was pictured the same awful shame and misery which countless women have endured when they have first seen a loved one—father, husband, son or brother—degraded by his own act beneath the level of the beast.

She stared for a full moment, wondering dully who that white-faced girl could be who was looking at her; that girl with white, quivering lips, pale cheeks and heavy-lidded sad brown eyes. Then Yvonne's incessant clamoring for notice aroused her.

"Merle isn't pitty, so white," prattled the child. "Yvonne likes Merle to be pink like Neddy. What makes Neddy so yed?" she persisted as the girl put her down upon the floor and mechanically began combing her hair. She could find no words for the child who, after remaining unnoticed for a moment longer, ran from the room, where presently Merle heard her merry bird-like voice sounding from Ned's room above the questioning note in Bruiser's low whining.

She hurried into her brother's room where he lay in heavy slumber on the bed, his debauch accentuating the weak lines of his chin and the self-indulgent, rather conceited expression of his face. Bruiser was standing guard over him in the bed, poking his cold nose into his face, his honest eyes full of canine sympathy, while Yvonne was pulling at his limp hands with all her baby strength, trying to make him wake up.

"Neddy sick," she repeated over and over, "and Bruiser can't make him open his eyes; Yvonne go 'phone for Dr. Dixon, quick," she pleaded as Merle took her forcibly away and called the dog from the bed; but here Bruiser asserted his individuality; he might leave the bed but not the room, so he stretched his full length on the floor by the side of the bed, occasionally raising his head to lick the hand that hung unresistingly toward him.

Merle shared with the dog the long, lonely vigil of the night. She had barely tasted the supper which Mary served in

the dining-room for her and Yvonne. Afterwards she had returned to Ned's room, feeling glad of the companionship of the dog, for both Ben and Mary were in a black mood, and the woman's harsh words were more than the girl could bear. Raymond had left the kitchen early and gone to his room. Jimmy, as apparently free from the influence of liquor as ever, had braved the freezing night to go to Smith's, the nearest neighbor of the Jacksons, for an evening's fun with cards, while the two boys whom he had influenced evilly were lying in drunken slumber.

Merle had cried so bitterly while undressing Yvonne that the child had become frightened and, after having been put in her little crib, she crept silently out of it and made her way to Ned's room again, crawling up in the bed behind him and there falling asleep. Merle found her there sometime later. Feeling too wretched to disturb her she left her alone and curled herself up in the big easy chair by the radiator, fearing that if she went to her own room Ned would waken and need her.

All the dreadful things she had ever heard about drunkenness swept through her mind. She had not the least idea what to expect, so accordingly her imagination conjured up the wildest phantasms of what Ned would probably do when he awoke, for she thought that all the intense shame which she was suffering would be magnified a thousand times with him, and that his terrible remorse would drive him to desperation. But as the hours dragged by he slept on heavily. Finally she fell asleep in the chair, waking suddenly as the clock struck seven and Mary's peremptory voice was demanding the reason she had not gone to bed.

She was chilled through and so stiff she could scarcely move, but her first thought was of Ned. He was still sleeping, though Yvonne was sitting up by his side and calling to him to get up. She murmured something about her anxiety, to be gruffly told that she was a fool to waste a thought on him, and also that breakfast was ready and spilling.

She dressed the child and made a hasty toilet for herself. Before she went to the dining-room she called up Dr. Dixon on the telephone and asked after Young Joe. She told the reassuring news to Mary that the doctor had brought him out all right, and, barring severe frost bites, he would be well in a few days.

"Pity it didn't kill him," Mary sniffed. "I ain't no patience with him nor Old Joe, neither. I say if folks kin take it like Jimmy, they kin have it, but others that can't had better be dead right off than to kill themselves by degrees. Now there's Ned—"

"He will never, never touch it again," Merle cried warmly, her belief in his shame giving force to her words.

"You'll see," said the woman, pointedly. "If he don't do it, it will be a miracle, and miracles don't happen very plenty nowadays."

The ice cutting was continued that morning, though Ben was three men short, as Old Joe did not appear for work, and Young Joe and Ned were in no condition for labor. The absence of the men did not help Ben's temper, and when it was time to send a man to the train to meet Searls that afternoon he was so angry that instead of sending Raymond he decided to go himself.

"Now there will be music," said Mary, entering the living-room where Merle was trying to divert her mind by reading a magazine. "If you want to see a good lively time for once in your life you will see it tonight."

"What do you mean?" she gasped, the color leaving her face. "You do not think that Searls will discharge everybody, do you?"

"I don't know what he will do," she returned grimly. "I only know that when he gets made he is so set that you can't pry him up with a crowbar. Them blacks don't act right today, and Ben thinks they got cold last night. He hain't had 'em out today and that will fix Searls, fer he thinks more uv them hosses than some men do their wives."

Merle hurried upstairs to Ned who, after vainly trying to whip himself into shape, had returned to his room feeling so utterly sick and wretched that he was in no mood for thought. Although Merle did not know it, he had had a few words with Ben that noon in the barn, having refused point blank to do a simple task the man had told him to do, telling him that it was his place to give the orders, not to receive them.

For a second Ben had towered above

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NAME OF PUBLICATION.	See explanation above.
Daily, (6 a Week.)	
Journal, Detroit, Mich on rural route	2 50 3 80 2 55
" " " " " " " "	5 00 5 25 4 75
Times, Detroit	2 00 2 75 1 75
News Grand Rapids, Mich.	2 00 2 25 1 60
Courier-Herald, Saginaw, Mich., (Inc. Sunday) on R. R.	2 50 2 55 1 60
News, Cleveland, Ohio.	2 00 2 85 1 85
Tribune, Bay City, Mich.	2 00 2 75 1 85
News-Bee, Toledo, Ohio.	2 00 2 50 1 65
Tri-Weekly, (3 a Week.)	
World, New York, (3 a week.)	1 00 1 70 75
Semi-Weekly, (2 a Week.)	
Journal, Detroit, Mich.	1 00 1 60 75
Weekly Newspapers and Current Comment	
Blade, Toledo, Ohio.	1 00 1 30 35
Commoner, Wm J. Bryan, Editor, Lincoln, Neb.	1 00 1 60 65
Inter Ocean, Chicago (w).	1 00 1 35 75
Cattle, Sheep Swine, Poultry, etc.	
American Poultry Journal, Chicago (m)	50 1 30 35
American Poultry Advocate, Syracuse, N. Y. (m)	50 1 30 35
American Sheep Breeder, Chicago (m)	1 00 1 75 80
American Swineherd, Chicago, (m)	50 1 30 35
Breeder's Gazette, Chicago, (w)	1 75 1 90 1 00
Farm Poultry Boston, Mass. (s-m)	50 1 30 35
Gleanings in Bee Culture, Medina, O. (s-m)	1 00 1 70 75
Hoard's Dairyman, Fort Atkinson, Wis. (w)	1 00 1 70 1 00
Horse World, Buffalo, N. Y. (w)	2 00 2 25 1 50
Horseman, Chicago, (m)	2 00 2 50 1 60
Jersey Bulletin, Indianapolis, Ind. (w)	1 00 1 85 1 00
Kimball's Dairy Farmer, Waterloo, Ia. (s-m)	40 1 30 35
Poultry Keeper, Quincy, Ill. (m)	50 1 30 35
Poultry Success, Springfield, O. (m)	50 1 30 40
Reliable Poultry Journal, Quincy, Ill. (m)	50 1 30 35
Swine Breeders' Journal, Indianapolis, Ind. (s-m)	50 1 30 35
Popular Magazines.	
American Magazine, (m)	1 00 1 95 95
Etude, Philadelphia, Pa. (m)	1 60 1 95 1 00
Hampton's Magazine, N. Y. (m)	1 50 2 00 1 10
Metropolitan Magazine, N. Y. (m)	1 50 2 00 1 10
Mechanical Digest Grand Rapids (m)	50 1 15 25
McClures Magazine, N. Y. (m)	1 50 2 05 1 50
Musicalian, Boston, Mass. (m)	1 50 2 05 1 50
Outing Magazine, N. Y. (m)	3 00 3 40 3 00
People's Home Journal, N. Y. (m)	50 1 25 80
Pearson's Magazine, New York (m)	1 50 1 75 1 50
Red Book Magazine, Chicago, Ill. (m)	1 50 2 30 1 25
Success, N. Y. (m)	1 00 1 75 80
Ladies' or Household.	
Designer, N. Y. (m)	75 1 55 60
Everyday Housekeeping, Salem, Mass. (m)	50 1 40 35
Harper's Bazar, N. Y. (m)	1 00 1 75 1 00
Housewife, N. Y. (m)	35 1 25 80
McCall's Magazine, N. Y. (m)	50 1 35 40
Mother's Mag., Elgin, Ill. (m)	50 1 35 50
Modern Presidia, Boston, Mass (m)	75 1 55 60
Pictorial Review N. Y. (m)	1 00 1 75 80
Woman's Home Companion, N. Y.	1 50 2 05 1 25
Religious and Juvenile.	
American Boy, Detroit, Mich. (m)	1 00 1 65 75
Little Folks, Salem, Mass. (m)	1 00 1 75 1 00
Sunday School Times, Philadelphia, Pa. (w)	1 00 1 80 85
Young People's Weekly, Elgin, Ill. (w)	75 1 45 75

(w—weekly; m—monthly; s-m—semi-monthly.)

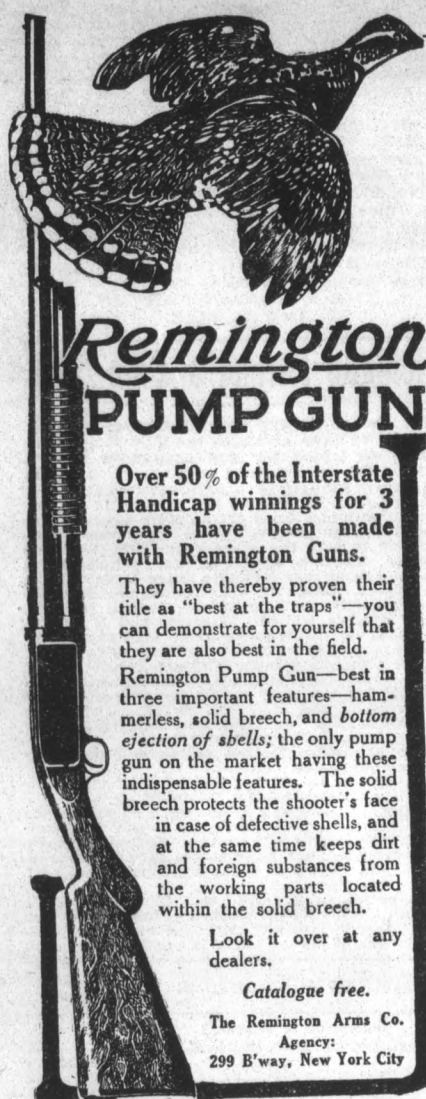
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him in righteous wrath; then with a black look on his face he had turned and left him, stalking to the farther side of the barn without a word, while Ned turned for support to Jimmy whose face wore a broad grin of appreciation.

"That's right, Ned," he said in a low tone, "you keep up that talk and that man will soon learn his place."

"He will learn it or else leave," blustered Ned, feeling very important, though his legs were unsteady. "I am a Jackson and he has got to keep his place."

"That's right," chuckled Jimmy. "That's what you need, Ned; a few drinks down and you get up your spirit. No matter if it did knock you out yesterday, you will soon get used to that, and then when you get your blood up you will make even the great Searls know who you are. You just keep this up for a few days and it will be you and not Ben Baker who is boss of this place when Jackson himself is away. Here," and he pulled a flask from his pocket, "another swig and you will be in just the right condition, to stand up for your rights when Jackson gets back, for you can bet your boots that Ben will stuff him, and like as not he will be in for discharging the whole of us, me along with you and young Joe."

"I'd like to see him discharge you when I'm here," boasted Ned as the whisky began to work in his circulation. "He discharge the best man he's got. Not if I know it!" He swaggered unsteadily across the floor, tried to pat Jimmy on the back, stumbled over a bushel basket and fell sprawling headlong against the grain room door which was partly open, bruising his cheek and blackening his eye.

Sobered somewhat, and smarting under the bruise, he made his way to his room where he sat on the bed with his face buried in his hands, paying no attention to Bruiser who was anxiously watching him. The boy stirred uneasily as he heard his sister and Yvonne coming, but he did not look up until Merle pulled his hands from his face. Then he flushed angrily and crossly ordered her to go away and leave him alone.

"I am not going," she answered quietly, "till I know what ails you. How did you hurt your face that way?"

"I don't know," he snapped; "Ben Baker never keeps anything in order in the barn, and, of course, I fell. That man needs to be put in his place and I'm going to see that he is sent there in short order."

"You are a sight," she commented, wisely ignoring what he had said. "Have you bathed that eye yet? I hardly care to have Cousin Searls see you looking as you do."

"I look as good as you," he snarled. "You are getting to be a regular frump. Your face is as white as an old woman's and your eyes are in the back of your head. You look as if you had been on a spree yourself," he laughed coarsely. "Better go and chase yourself and let me alone."

"Merle cried all night," chirruped Yvonne. "Neddy sick, Merle cried. Yvonne wants to kiss Neddy," she pleaded, trying to climb up in his lap.

He pushed her away roughly. "I can't be bothered with kids. Take her away and get out yourself. You needn't come around me whining. I know what I have done and what I'm going to do. I'm a man and capable of taking care of myself, and when Searls gets home I shall tell him a few things. I am not going to stand for none of Ben Baker's lies."

Merle made one more plea: "I wish you would not see Searls tonight. Wait until you feel better. I will tell him that you are sick"—she begged, "anything—but don't let him see you until—until—for my sake, Ned, stay in your room tonight. I know he will excuse you if you ask him."

There was no reason in the boy. He lifted his head and glared at the trembling girl. "I will do as I please," he said thickly. "I'm not going to stay here and be treated like a servant by Searls Jackson any longer. You can stay and be made a slave if you want to; but I won't. Jimmy says it is town talk how he uses us; we, his own blood, who have as much right here as he has. I have some rights and am going to demand them. I wish you would take that kid out of here," he repeated, irritably. "I can't stand it to have her called a Jackson and be as his child when he sets me to pig feeding."

"Papa good to Yvonne," said the child, retreating to Merle's side in alarm, frightened at Ned who had always been her chosen companion. "Neddy cross," she wailed, beginning to cry.

"Stop that noise," he roared, flinging

out his hand and striking her a sharp blow across the face. "I won't stand for such a racket with my head jumping like a mill race. You shut up, too," he snarled at Merle who was trying to speak; rising from the bed he advanced towards her threateningly, though with unsteady steps. "I'm a man and I won't have a snivelling woman hanging around me. I'll be all right pretty soon," he muttered, reeling as the room swam around him, and falling back on the bed.

She carried the sobbing child from the room, who, besides being hurt, was frightened almost into hysterics. For nearly an hour Merle was kept busy trying to soothe and quiet her, for she dreaded the consequences to Ned if Searls should find the child in such a nervous state; but the little one fell asleep before the girl saw the sleigh coming up the driveway.

Her heart sank when she saw that Nell was not with her husband, for she had counted on her aid in winning forgiveness for her brother. Her first look at Searls' firm, set face showed her that he was very angry.

Nell, he explained briefly, had gone to Bob's home for a day. He and Dallas had been at the Society meeting and had urged her to return with them, and he had thought best for her to visit them at that time. He bent lovingly over Yvonne as he talked. "What has she been crying about?" he asked, noticing the swollen little face and the faint imprint yet remaining of Ned's blow. "Did she get hurt?"

Merle hesitated. Searls' eye was upon her and she dared not equivocate, for she knew the child would tell the truth when she woke up. "Who hurt her?" he repeated sternly.

"Ned," she said faintly, "but I do not think he—he thought—"

"Then it is time that he did think," he interrupted. "I know all about this whole wretched business and it is time it was stopped."

"I don't know what you know," she said desperately, "but I do believe that Jimmy is at the bottom of it."

"Jimmy!" he looked at her in surprise. "Jimmy is the best worker and the most capable man I have on the farm next to Ben. Ben told me that he had some cider with him, but I never interfere with him, because he never loses his head nor his legs. There were others besides him that had whiskey with them."

"I can't help that," she reiterated. "I know what I am talking about. It is that Jimmy Malley who has been at the bottom of Ned's trouble."

"Does Ned say so himself?" he demanded.

"Not really; he likes him; but I know, Searls, I do know, from what he has told me that Jimmy has made him discontented all the time, and it is Jimmy that gave him the stuff to drink."

"You imagine so," he said kindly. "Jimmy has been in my employ five years, and even Ben, who is always looking for faults, can find no trouble with him. Of course, I know that he drinks some, but as it never hurts him, I cannot interfere."

The girl burst into tears. "I may not make you believe me, but I know that I could have some influence over Ned if it wasn't for him. But I hope and pray, Searls, that you won't be too hard on him. Remember, this is the first time," she implored, grasping his arm with both hands and raising her tear-wet face to his.

He looked at her kindly, his stern face softening. "Merle," he said, "I want you to know that I love you as if you were a sister; yes, more than that, as if you were our child, like Yvonne. I have done everything in my power for you, and I also have for Ned, but this disgrace is more than I can stand. To have him—a Jackson—disgrace the family as he has done is something I cannot countenance, for the Jacksons have never done anything disgraceful. I have borne with him for nearly a year, now, paying him first-class wages, besides giving him a home; doing everything I could to give him a chance to earn money for himself and get a start in life; but how has he paid me back? I have heard the things he has said behind my back, how he has ridiculed my efforts, and what he has said about being treated as a servant; and now we must come to an understanding. He must control his hateful tongue and must take orders from Ben Baker, who is the head when I am away, or else he will leave. I cannot put up with him any longer. However," as Merle drew away, sobbing bitterly, "however, for your sake I will overlook it this time and give him one more chance."

(To be continued.)

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GRANGE

Our Motto—"The Farmer is of more consequence than the farm, and should be first improved."

THE JANUARY PROGRAMS.

Suggestions for Second Meeting.

Song. Legislative measures in which the Grange is specially interested. General discussion.

Song, page 144, Grange Melodies.

Recitation, "Ma Can't Vote."

Debate. Resolved, that equal suffrage would benefit the state.

Music.

Paper, "Games and refreshments for winter evenings," (with samples).

Closing song.

LECTURER'S PROGRAM AT STATE GRANGE.

Probably the most pleasing and helpful session of the recent State Grange meeting was that given over to the State Lecturer. The program proper which Miss Buell had provided for this session was preceded by her annual report as State Lecturer. Close attention was given this report. It was referred to the committee on Good of the Order and the recommendations which it carried received the endorsement of the committee and of the delegates at a later session. The report read as follows:

It is with gladness that we see the Lecture department of the Grange recognized by people both outside and within the Order, as one of the organized forces for promoting general public progress. During the past year the co-operation of this department has been sought by representatives of numerous movements that tend to improved farming, better home-keeping and higher citizenship. Lecturers have been repeatedly urged to make a special effort to take up some of these broader questions and, by assignment in advance, secure a carefully prepared, studied presentation of them before their meetings. The plan is in line with more thorough work and would give us better ground for taking our stand upon important matters. Take, for illustration, any one of the questions of legislation favored by the Grange. Is the time not past when we can afford to act upon a list of these questions in the mass? Among other questions, waiting assignment for careful research and presentation, may be named the conservation of natural resources, the sciences as related to housekeeping, the study of child life, equal suffrage, the merit system, the peace movement, the proposition to establish a national bureau of public health, the purifying of politics, the redirecting of rural school purposes, and the federating of all forces working for country betterment. The Grange ought to encourage home study and use of libraries and periodicals by persistently pressing forward along these and similar lines upon which the minds of thinking people in general are engaged.

State Lecturer's Bulletin.

The chief duty with which you charge your State Lecturer is the preparation and sending out of the little quarterly bulletin for the help of Pomona and subordinate Grange lecturers. I will not tire you with the details of the schemes, plans and suggestions that have been collected, scanned and culled before its pages have been filled with what, in my best judgment, might possibly fit the needs of one or all of the 900 Granges of the state. An attempt to prepare a "cut and dried" program of work for all these different Granges, working under widely differing conditions, would be grotesque and ridiculous in the extreme. Sometimes, however, even lecturers have this mistaken idea and look upon the use of these program outlines as compulsory. You who are delegates will increase the usefulness of all lecture helps if, when you visit Granges upon your return, you point out that these outlines in the bulletin are simply what they claim to be, suggestions only for use in such places as they seem to fit. Again, occasionally, the complaint comes—as I suppose it will come so long as lecture work stands—"The topics are too far beyond our members." And I ask you to help overcome this objection by pointing out that in every issue of the bulletin there are listed plenty of plain, practical topics from which the lecturer may select. Here the difficulty lies in the failure of the lecturer to study his helps, a case illustrating the old saying about the ease of leading a horse to water but the difficulty of making him drink.

Lecturers' Conferences.

The new effort in lecture work, authorized as a regular feature for the year by the last State Grange, has been that of holding a series of district conferences for lecturers. This was to be in the nature of an experiment, and not with the expectation that the whole state could be covered in the year. According to this plan, 13 conferences were held before the middle of May, attended by 332 lecturers. This included the informal conference in connection with the annual state meeting. This fall a tour of eight counties in the upper peninsula was made and lecturers' conferences held in connection with eight Pomona Grange meetings. In Dickinson and Monroe counties, where no Pomonas exist, union meetings were held and a conference of lecturers conducted. At these meetings, and at rallies and institutes, your State Lecturer has personally

met nearly or quite one-half of the lecturers of Pomona and subordinate Granges of Michigan. May I add that this has been a matter of genuine pleasure and stimulus to me? The contact with such a number of people who are faithfully carrying on this splendid work has been most encouraging. Without much special training and with many other heavy demands upon them, these lecturers are inciting masses of members to higher personal and public thought and action, and leading them to unite with other forces for civic and individual righteousness. The coming to know such rural leaders as these, I repeat, is inspiring. It confirms one in a splendid hope for the future of both the Grange and farm life. Most of these lecturers are alive to their responsibilities, but they need your support at every turn and in every legitimate way of encouragement and appreciation. Skilled specialists might well be daunted by the burden of work and by the bigness of the field that lies white before every Grange; and yet here are these already busy, burdened housewives and farm men undertaking this task without financial return and often at great sacrifice of strength and convenience to themselves. They feel their want of training; they appreciate their need of contact with others engaged in the same kind of volunteer service; may I ask you to go back to your home Granges with a warmer greeting and a word of appreciation for the lecturers who have thus made the lecture hour of value to you and your neighborhood? Scarcely a lecturer but has done some good work—the wonder is they do not make more blunders and fail oftener than they do. If by any chance you have a lecturer who is that in name only and who does not appreciate the position, then supplement his lack by redoubling your own helpfulness until the mistake in officers can be rectified. At all costs, have something of a profitable program at every meeting.

Experience in the conferences, together with opinions expressed by those who have given thought to the matter, warrant extension of the plan in a revised form. A conference system, so closely in touch with the visitation of Granges by deputies and state speakers that at the end of the year every Grange in the state may be accounted for, is desirable. After consultation with a number of lecturers, deputies and other officers, the following general plan is submitted for your consideration: 1. Hold a series of district conferences to cover in a broad way practically the lower peninsula. 2. Urge every Pomona Grange to devote one meeting a year to promotion of lecture work over its county, the state speaker for which meeting to be selected because of his or her fitness for leading such a conference. 3. Keep visiting deputies in close touch with lecture work plans and charge them to give special help to officers along these lines whenever visiting Granges.

(The second of these recommendations was amended by the committee on Good of the Order so as to require that a speaker for a meeting of Pomona, devoted to the improvement of the lecture hour work, shall be selected upon advice of the State Lecturer in case it is not possible for the State Lecturer to attend in person.—Ed.)

Importance of the Lecture Hour.

In some such way as this, the importance of the lecture hour and of affording helps for lecturers will be more strongly impressed upon the consciousness of our Granges. Delegates to this State Grange, deputies, officers in all ranks of Granges, all need to appreciate the vital necessity of electing a fit person for every lecturer's chair and of giving him encouragement to gain training and progress all the time he holds the office. It is no light matter to be lecturer in a subordinate Grange. This officer is, in a large manner, responsible for the interest of members in the Grange and for their ideals concerning their home and farm surroundings. He is charged with the cultivation of unused abilities and the development of leadership in those who have heretofore modestly kept in shadow. His duty is often to redirect the purposes and interests of the whole community. His responsibility is truly great and is only matched by his opportunity for personal growth and development, and his satisfaction in having had a part in the present nation-wide movement for country betterment. Forty-three years of history clearly demonstrates that a lecturer's program is essential to permanent Grange life. While history proves this, patrons must be given the precept over and over that without observance of the lecture hour Granges dwindle and die. We must also lead newcomers to a constantly broadening outlook upon this most important Grange field. Though they purchase carload upon carload of coal, that alone will not keep burning the real Grange fires. Though they dispense thousands of gallons of illuminating oil, it will not make their meetings bright and shining social centers. Though they buy enough binder twine to gird the globe with cordage cable, except the lecture hour is strung with lines of living interest, the very Grange itself will slip its moorings. Though they insure their barns and houses against fire and cyclone, and the life of every member against grim death itself, these will not save the Grange from expiration if the lecture hour is not made the vitalizing center from which the red blood of Grange life is pumped to every part of its body. (Concluded next week.)

COMING EVENTS.

Pomona Meetings.

Western (Ottawa Co.) Pomona, with Georgetown Grange, Friday and Saturday, Jan. 13-14.

Wayne Co., with Plymouth Grange, in Odd Fellows Hall, Plymouth, Friday, Jan. 20.

FARMERS' CLUBS

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—B. A. Holden, Wixom.
Secretary—Mrs. C. P. Johnson, Metamora.

Treasurer—Mrs. Lewis Sackett, Eckford.
Directors—A. R. Palmer, Jackson; Wm. H. Marks, Fair Haven; C. L. Wright, Caro; E. W. Woodruff, Blanchard; C. P. Johnson, Metamora; Patrick Hankerd, Munith.

Address all communications relative to the organization of new Clubs to Mrs. C. P. Johnson, Metamora, Mich.

Associational Motto.—

The skillful hand, with cultured mind, is the farmer's most valuable asset.

Associational Sentiment.—

The farmer, he garners from the soil the primal wealth of nations.

FARMERS' CLUBS SHOW GENERAL PROSPERITY.

The Associational Secretary prefaced her report at the annual meeting by the following paragraphs:

Once more the old saying, "Time moves on rapid wings" is forcibly brought to mind as it seems but a few weeks since we met here one year ago. The year has brought much to each of us, sorrow and sadness to some, happiness to others, blessings to all.

Certainly the farmer has no reason for complaint over the bountiful harvests and good prices, even if we pay good prices for everything we buy.

The pessimists of early spring days predicted disaster, but the fall weather came to the rescue, and again King Corn is triumphant with the banner crop of recent years and it is surely fitting for the farmers of the state to meet in our Capitol City, count their many blessings, and plan the campaign for the coming year.

The condition of the local Clubs was further described by the following statistical report:

Statistical Report.

118 Clubs in 31 counties with 7,000 members.

Number of meetings held during the year, 678.

Average attendance, 40.

Total number of members present, 4,614.

Twenty-one Clubs use yearly programs.

Forty Clubs hold annual picnics.

Twenty Clubs hold club fairs.

Twenty-one Clubs hold temperance meetings.

Seventy-five Clubs paid annual dues.

Sixty-six Clubs returned report blanks.

Forty-five deaths have occurred.

CLUB DISCUSSIONS.

The Annual Meeting of the Hadley and Elba Farmers' Club was held at Maple Grove with Mr. and Mrs. B. L. Snook, Dec. 15. Although the weather was very stormy and disagreeable, 60 people enjoyed the warm welcome and cheery hospitality of the host and hostess. The following officers were re-elected for the ensuing year: Pres., R. J. Pierson; vice-pres., C. A. Davenport; sec., Mrs. C. P. Johnson; treas., Mrs. B. C. Snook, all of Metamora, Mich. Committee on program for the Club and also the farmers' institute were elected and the report of the delegates to Lansing postponed till the January meeting. Miss Donna Farrar, Mrs. Frank Jeffery, Miss DeClerg and C. P. Johnson gave vocal and instrumental solos, and numerous selections on the phonograph enlivened the program. This has been the record year for the Hadley and Elba Club, the largest in the state, and we hope to do still better work in 1911. The next meeting will be at Hasler Valley Farm with Mr. and Mrs. F. G. Selby, Jan. 12.—Mrs. C. P. Johnson, Sec.

Will Hold Club Institute.—On Dec. 14, 1910, the Starville Farmers' Club met at Elmwood Farm, the pleasant home of Mr. and Mrs. J. D. Hill. This was one of the best meetings of the year. After a chicken-ple dinner, the president called the meeting to order, and we listened attentively to the delegate's report of the State Association meeting, held in Lansing, Dec. 6-7, also the secretary's annual report, after which the election of officers for the years 1911, resulted as follows: Pres., Chas. Basney; vice-pres., John Volker; sec., Mrs. W. D. Richardson; treas., Geo. Bammel; menu committee, Mrs. L. C. Hill, Mrs. M. Butler, Mrs. W. H. Marks; entertainment committee, Mrs. E. Ross, Mrs. R. Simons, Mrs. J. D. Hill. The Club decided to hold an institute in the Algonac town hall, where dinner and supper will be served by the Ladies' Aid Society of one of the churches. We are looking forward to this institute as a day of great benefits to us all. After the business of the day we listened to a program which was very pleasing. The school children sang "What's the Matter with Starville?" We say, "The Starville Farmers' Club is O. K."—A Member.

The Annual Meeting of the Ingham Co. Farmers' Club was held Dec. 10, 1910, at Maple Ridge Farm, the home for so many years of its former president, the late A. F. Wood, and where his two daughters, Mrs. Tanswell and Mrs. Cheney, with their husbands, made all welcome. It was a stormy day but it takes more than a snow storm to keep the faithful ones

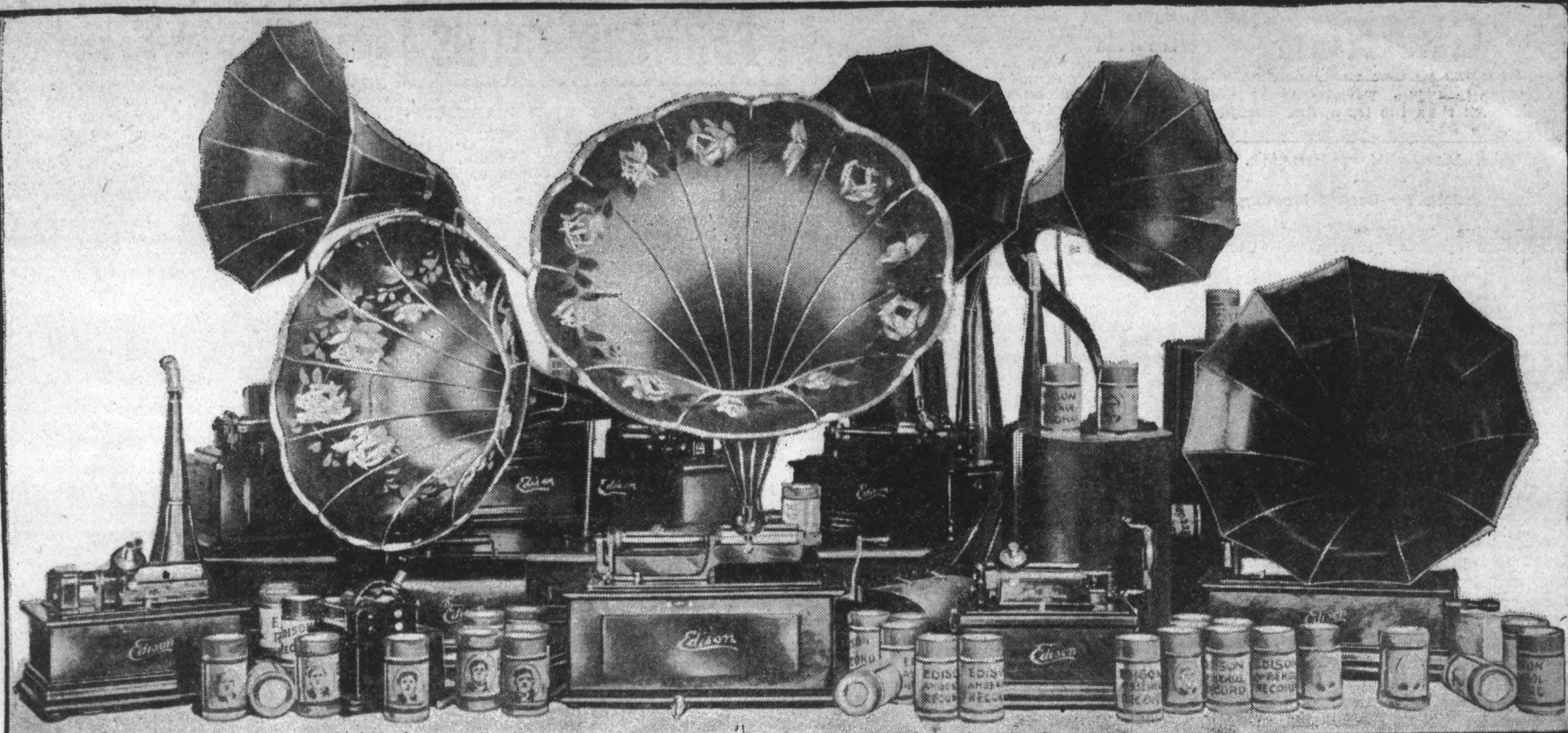
away from a Club meeting and half a hundred gathered around the festive board and did justice to a chicken-ple dinner. "Hired help on the farm" was the subject for discussion, led by J. B. Thorburn, of Holt. Mrs. Haskell gave a recitation and music was furnished by Misses Irene Edgar and Margaret Dubois. Election of officers resulted as follows: Pres., L. H. Ives; vice-pres., Mrs. W. H. Horton; rec. secy., Mrs. W. H. Taylor, cor. secy., Mrs. J. E. Tanswell; treas., E. C. Russell; directors, three years, M. Vaughn, Mrs. J. W. Chapin; directors holding over two years, W. A. Melton, Mrs. Alfred Allen; directors holding over one year, J. H. Shafer, Mrs. E. P. Rowe. Mrs. B. L. Green reviewed the work done the past year, saying we had only 10 meetings, it being necessary to omit the November meeting on account of a death in the family of the host. The programs have been varied and the work prosperous for the coming year. P. J. Bullen, the delegate to the State Association, was present and referred to different topics discussed at the state meeting but time did not permit a full report. At least 14 of our members attended two or more sessions.—Cor. Sec.

Favor Club Institutes.—The December meeting of the Ray Farmers' Club was held at the home of Mr. and Mrs. Geo. Graham. About 60 enjoyed the excellent dinner, after which they assembled in the spacious parlor to elect officers and listen to the program. The meeting was called to order by President C. S. Priest. After prayer by Rev. Diver, of Romeo, the following officers were elected: Pres., C. S. Priest; vice-pres., J. A. Jewell; sec., Miss Carrie Wyman; treas., C. J. Hartway; cor. sec., Mrs. John Smith; chorister, Mrs. C. H. Chubb; organist, Miss Hazel M. Green. The topic, "What can we do to improve the Institute work in our country," was opened for discussion by C. S. Priest. He thought the only way to improve it was for the different Clubs and Granges to unite and hold their own institutes and have their own speakers. An excellent paper was read by Mrs. John Smith, on "He who tills and he who tills." The meeting was then closed with a song by the Club. The next meeting will be the annual oyster dinner, held at the hall on Thursday, Jan. 12, 1911.—Hazel M. Green, Cor. Sec.

Discuss Fence Post Problem.—One of the most interesting meetings of the Assyria Farmers' Club was held Dec. 17 at the pleasant home of Mr. and Mrs. V. S. Farley. After one of those bountiful dinners for which the Club is noted was served to over 100 people, President Cargo called the meeting to order and the regular business was disposed of. Officers for the ensuing year were then elected as follows: President, Harry Mayo; vice-president Mrs. Elma Olmstead; secretary, Mrs. Lizzie Mayo; treasurer, Chas. Tuckerman; chaplain, Mrs. Adell Cargo; reporter, Mrs. Emma Hill; chorister, Kate Cox; organist, Ruth Cargo; ass't, Hazel Olmstead. The subject of "Posts and Post Timber" was taken up by John Smith, who told how he set out 200 hardy catalpas in April, 1909, and now they are seven or eight feet high and three inches through. Said the trees could be bought for \$7 a thousand. He told of one man who, in twelve years, had realized over \$30,000 by growing catalpa trees, planting them six feet apart each way. He advised all to try a few, if only by the roadside or in the fence corners. He also said if white oak posts are cut in August and set top end down they will last longer. He knew of some that were set 28 years ago that are sound now. Considerable interest was shown in the subject. After adjourned to meet with Charles Cox and a good program was completed the Club wife the fourth Saturday in January.—Reporter.

Will Hold Club Institute.—The Salem Farmers' Club held its December meeting at the home of Mr. and Mrs. Gilbert Thompson. Good music was furnished by the Young Ladies' Choir. Prof. Allen, of the U. of M. addressed the Club on the timely subject of "Affairs in Mexico." Having spent some time in that country he was able to give a very interesting account of the condition of things there, especially the political situation, the agriculture of the country, the customs of the people, the mountain districts, with the Indian inhabitants. He brought an Indian boy home with him, in whose education he is much interested. The hour for business having arrived, President Ross thanked the Club for their fellowship and help during the three years past, but wished them to look for a new president. The following officers were then elected: Pres., Gilbert H. Thompson; vice-pres., Myron Atchinson; treas., Geo. Roberts; rec. sec., Luella Tyler; cor. sec., H. C. Thompson. The Club voted to hold an institute in February, 1911. Adjourned to meet in January at the home of Mr. and Mrs. Fred Burnett.

In a Prosperous Condition.—The Conway and Handy Union Farmers' Club met at the home of Mr. and Mrs. E. House, for the December meeting. Dinner was served to over 100 people by the host and hostess, as is the custom of the Club. Election of officers for the following year resulted in the choice of W. M. Horton for president; A. Meyer, for vice-president; recording secretary, Mrs. Blanche Wilkinson; corresponding secretary, Mrs. S. R. Holmes; treasurer, Mrs. E. House; chaplain, Mr. G. L. Adams. Report of delegates to State Convention, music and recitations, with discussions on the topics prepared by the program committee, question box, etc. took up the afternoon. A very pleasant time was reported, and the annual report of the secretary showed this Club to be in good shape financially, both in general fund and memory fund. This Club has been running several years and has never been near the road to destruction. May the following year be prosperous, not only to this Club, but to all Michigan Clubs.—Mrs. S. Holmes, Cor. Sec.



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