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The Tuberculin Test and the Farmer.

IT is difficult to understand why the farmer should look upon the tuberculin test and the subject of tuberculosis in general in the way he does. Why does every farmer and every milk dealers' organization fight the city health officer when he tries to comply with the city ordinance, which demands that no milk be sold except from tuberculin tested cows? Yet the average farmer does fight this proposition. If these regulations however, were complied with it would only be a short time before the whole question of tuberculosis would be cleaned up in every herd and then it could be kept clean, and after that there would be no trouble whatever.

The farmer fights the tuberculin test for one reason, because he hasn't faith. Faith comes largely from the understanding of basic principles. The average farmer don't understand the principles having to do with the tuberculin test. It is difficult for him to understand how it is that by testing cows with tuberculin or injecting the tuberculin and then taking their temperature before and after the injection that the veterinarian is enabled to tell whether the cow has this dread disease or not. He doesn't understand, he can't see, and he lacks faith and doesn't believe in the test. But this is no worse than lots of other things in this world. People have to take some things for granted that they can't understand. It isn't given to every man to understand every particular thing in this day and age of the world. This is the day of specialists, this is the day when science has accomplished wonderful things and has gone into the nooks and corners of creation and dug out facts which were never known before, and it is only these few men who go into these nooks and corners and find the truth of matters that thoroughly understand them, and consequently the great masses of humanity must take these things for granted if the results can be proved. Of course the scientist must prove his results, and he does with the tuberculin test. It has been tried time and time again, and in almost every instance, where the tuberculin test showed a reaction, on post mortem examination the animal was found to be infected with this dread disease, tuberculosis. Now it won't do for the farmer to say that "I don't understand that I can't see how this thing accomplishes this and therefore I don't believe in it." If he isn't scientific enough, if he isn't willing to take the time to go to work and study up the philosophy of the test, so that he will understand it and therefore believe in it, it is his business to take it for granted that the results are so. This is the only way to make progress. No one today can dispute the accuracy and the reliability of the tuberculin test. It has been demonstrated, as I say, over and over again, and it is up to the farmer to believe.

Again, the farmer objects to the tuberculin test because it may indicate that a certain portion of his animals are affected with tuberculosis, and if it does, then the city ordinance or the law says that the milk from those cows is not fit for human food and therefore he is prohibited from selling this milk. Consequently it is necessary for him to get rid of these animals. He must not sell them to somebody so that they sell the milk for human consumption, but they must be disposed of. If the disease has developed to a certain extent then scientists tell us that their meat is not fit for food. On the other hand, if it hasn't developed to a certain degree it can be used as food and government inspection will pass it for food.

Now the state comes in here again and helps the farmer out for the benefit of all. People reason that if a farmer who keeps dairy cows and sells the milk for human food finds his herd infested with tuberculosis, that it is for the public good that that milk be cut off from the supply. Consequently a law has been passed which allows a certain modest compensation for animals which are destroyed because they have tuberculosis and are far enough along in this disease so that the meat is not allowed to be sold for food. This, every fair minded man will say, is all that one can expect. I think it is reasonable to say that as long as this is

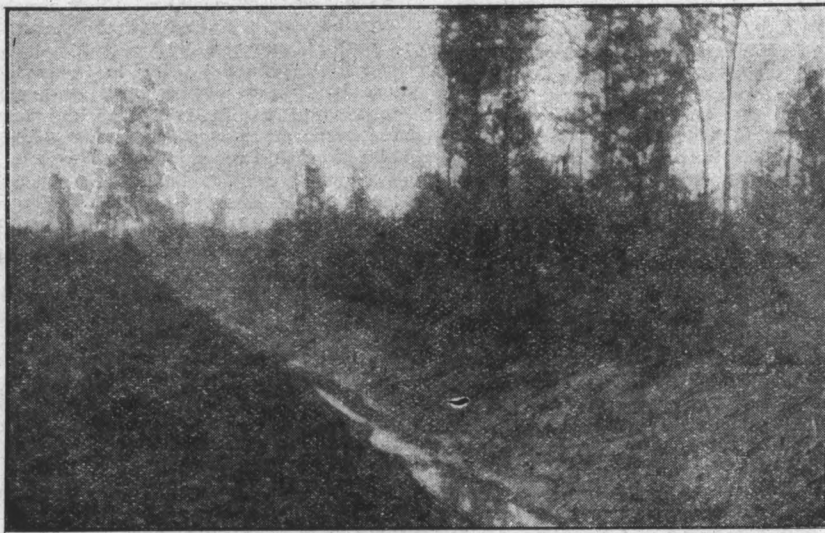
We are all human, of course, and we don't like to have our property destroyed, even if it is for the public benefit. It is quite a proposition to accumulate property in this country today, over and above a living. If a man works hard and uses both his head and his hands to accumulate a little property and has that invested in cattle, it gives certainly a serious blow for the public to go to work and destroy those cattle without any compensation, when it is for the public good as much as anything. Some argue, of course, that the state don't pay a sufficient compensation. No reasonable man would say that the state ought to pay full

is only a slight reaction in valuable animals, if they are isolated so that there is no danger of their communicating the disease to other animals in the herd, many times they will recover from the disease and regain their normal condition. This can all be handled by the farmer now with not so very much expense. The real and serious loss comes to the man who neglects to make the test until his whole herd or a goodly portion of it becomes infected with the disease. Then the loss is serious. If he takes it in time when there are only a small per cent of reactors in the herd, his loss is not serious, and in this way he can keep it from becoming serious in the future. But if he neglects it or keeps putting it off, the time will come when all of his animals are practically infested with this dread disease and then his loss will be serious.

It is admitted on every hand now, by people who have studied this disease in all its phases, that tuberculosis is a barn disease. Cattle that live in the open air and have plenty of pure air to breathe are seldom if ever infected with this disease. It is when the animals are crowded into poorly ventilated, poorly lighted and damp, unsanitary stables and kept there in confinement in cold weather to keep them warm that this disease spreads. It would be of little avail for a man to test his herd of cows and take out all of those that react and then put his herd back into unsanitary quarters which have been responsible for the disease in the first place. A well-lighted, well-ventilated stable is death to germ disease. The first thing, therefore, for a farmer to do, if he has not already done it, is to put plenty of windows in his stable. He ought to have four square feet of glass to every animal in the stable, this is none too much. Then he ought to put in the King system of ventilation so that in the winter time when his barn is shut up in order to keep it at the proper temperature so that his cows will give a good flow of milk, they will be abundantly supplied with pure air. Ventilation is a cold weather problem. We don't have to bother about ventilation in the summer time or in mild weather, or in mild climates, because we have the windows open and the doors open and there is a free circulation of air, but in our cold climates when we have to shut the barn air-tight in order to keep it at a desirable temperature, and this air that has been breathed over and over again by the cows becomes infected with the dread disease of tuberculosis. Then is when the trouble begins. Then is when one cow infested with the disease communicates it to her neighbor and so on to the whole barn full of cows.

The first thing for the farmer to do is to ventilate and properly light his stable, put it in sanitary condition, and then get a competent veterinarian to give his cows the tuberculin test and take proper care of those that react, should any react. If some of them are so far advanced with this disease that their meat is unfit for food the only thing to do, of course, is to destroy them. Get what you can out of them. You had better do it now than to wait until the whole herd is infected. If there is only a slight reaction in some they can be isolated and put into another barn, and certainly their progeny can be saved and be free from tuberculosis. The thing to do is not to put it off but to act before the disease goes too far. Really, the cost of making the tuberculin test is not excessive. It can be done at a moderate expense.

(Continued on page 489).



A Big Outlet Drain, "Making Farming Land in Central Michigan," Page 486.

for the public good the public must have the milk, as milk is necessary, and they demand that the farmer clean up his herd so far as this disease is concerned, if they pay a moderate portion of the result so that the loss is not entirely that of the farmer, then the state or the public is doing all that they possibly can and all that they ought to. The farmer ought to meet the law half way, and if his cows react to the tuberculin test and the state pays him a modest compensation toward the value of these animals, it is assisting him as well as the public. The farmer ought to do his share because it is a benefit for him to have his herd relieved of tuberculosis whether he sells milk or not.

compensation, because it is a benefit to the farmer as well as the public, and he ought to pay his share of this compensation or, in other words, stand his share of the loss which may occur.

No farmer has ever had his cows tested for tuberculosis, whether he found the disease or not, who was not glad after he had it done. I don't believe one single man will come up and say that he is sorry. We know now how to handle a herd where this dread disease is found in it. If it is a valuable breeding herd of pure-breds and some of the best cows react, they can be isolated and their calves can be reared without any danger of their having tuberculosis. Where there



Type of Dredge Used in Digging Open Ditches to Provide Outlet for Tile Drain.

Michigan Potato Growers Organize

THE Michigan State Potato Association was organized at a meeting of potato growers, distributors and handlers held November 18 at Grand Rapids, with the following officers: President, A. L. Hopkins, Bear Lake; secretary, John I. Gibson, Grand Rapids; treasurer, Mr. Inman, Midland county; vice-presidents will be chosen later by the executive board, one influential grower being selected in each county of the state. A constitution and by-laws drawn up by a special committee and read by Jason Woodman, of Kalamazoo, chairman, was adopted. The association is organized to promote the potato industry of the state in all its phases, with special attention to seed, culture of crop, sorting, grading and marketing methods. Michigan will co-operate with the national society in standardizing the potato, adopting grades and a Michigan label. Annual membership fee is \$1 and life membership \$20. It was voted to hold the next annual meeting the first Wednesday and Thursday of December, 1914, in Grand Rapids.

The potato campaign opened with a dinner meeting Monday evening at the Livingston Hotel, attended by about 40 of the live wires in the state. The speakers were Henry G. Bell, agronomist of the Middle West Soil Improvement Association; H. E. Horton, of the American Steel Wire Co.; Jason Woodman, farm demonstrator of Kalamazoo county; C. E. Bassett, secretary State Horticultural Society; John I. Gibson, secretary Western Michigan Development Bureau; J. H. Skinner, Farm Demonstrator for Kent county; E. A. Abbott, land commissioner of the Boyne City, Gaylord & Alpena Railroad; A. F. Smith, Farm Demonstrator for Alpena county; A. N. Brown, editor Fruit Belt; John Bale, of Lakeview; C. B. Cook, Farm Demonstrator of Allegan county, and others. A committee on organization was appointed, composed of Jason Woodman, Kalamazoo; J. H. Skinner, Kent county; J. W. Chapin, Branch county; C. B. Cook, Allegan county; John Bale, Montcalm county; Geo. W. Welsh, and F. W. Hinyan, Grand Rapids.

Two sessions were held on Tuesday and at the afternoon meeting at the Association of Commerce, the rooms were filled to overflowing. J. H. Skinner, of Kent county, presided. One of the interesting speakers from outside was Prof. William Stuart, of the Department of Agriculture, Washington, secretary of the National Potato Society of America. He spoke at both sessions and answered many questions. The national society, as he frankly explained, has not done very much as yet in getting states to affiliate in the work. He spoke especially of the value of organization and what the growers of Wisconsin, Idaho and other sections are doing. It was stated that Idaho growers have adopted three standard grades and through affiliation with the Northwest Fruit Growers' Association, with carlots moved to the many distributing points, the Michigan growers have a strong competitor. So that it behooves Michigan to organize as speedily as possible. Prof. Stuart favors a smaller package than the sack now in use, so that the potato will carry with skin unbroken and without a blemish. He spoke of the carton paper box in use in the apple trade for shipment direct to consumers and favored shipment in unbroken package to consumers in the larger cities. It was shown that potatoes deteriorate rapidly in quality when exposed to light and air and that if properly taken care of and relished the consumption would be greatly increased.

Prof. Stuart spoke of an extended trip through the states where he found more or less disease and mixture of seed. He said that potatoes now coming from Belgium are better graded than ours and are of pretty fair quality. He thought it was a serious mistake to remove the tariff.

C. E. Bassett, of Allegan county, spoke of the Sulzer bill in packing apples and urged the importance of establishing standard grades of potatoes, without the cumbersome and expensive machinery of regular inspection and boards of inspectors.

Market types of potatoes were explained by Prof. Bell, of Chicago. He said the potato should be sound, regular in shape, medium and even in size, clean, bright and of pure variety. It should run eight to ten ounces in weight, five inches long and two and a half to three inches through, a smooth, clean skin, shallow eye, clear, white flesh, fine in texture, dry and flaky and of good flavor. Use well drained soils. Pick well shaped seed of established seasonable varieties. Prevent scab by formalin treatment. Prepare the

seed bed well by plowing under some green crop and thoroughly working soil. Use liberal amount of fertilizer. Cut seed into pieces weighing from one to two ounces and see that each piece has one good eye. Begin cultivation early. Spray with fungicide and to control beetle. Prof. Bell stated that an improved quality of potato will take care of the fear of over-production.

Diseases were discussed by G. H. Coons research assistant in plant pathology at the M. A. C., and Dr. Bessey, of the college, supplemented the talk with the warning to growers to dip potatoes in the formalin for scab, also not to plant in infected fields.

Jason Woodman followed with a compact talk on a subject that he is full of. He said we should raise more potatoes to the acre, but not more potatoes. Potato growing is not the best kind of treatment for land, chiefly because the soil is left bare over winter. It was shown that the potato must have lots of food and have it close at hand; corn roots will reach some distance for nourishment. Particular emphasis was placed on cattle raising, hogs and horses in connection, and of the manure that is returned to the soil. It was asserted that 60 per cent of the farmyard manure in the state is wasted. In addition to barnyard manure he recommended commercial fertilizers.

Eben Mumford, of Lansing, state leader of farm agents, gave a most spirited talk, urging state and local association work in co-operation with the farm directors in enlisting the 176,500 potato growers of Michigan who did not attend this meeting, with the work of developing this great industry. "We'll work with you," he said, "and we will put Michigan at the top of the list as a potato state."

H. G. Horton, agriculturist of the American Steel & Wire Co., gave some interesting information as to what Germany has done and is doing on her eight million acres of potato land. Her average yield is 350 bushels per acre and her highest yield is 1,700 bushels. It was suggested that Michigan should have starch and dextrine factories and potato drying plants.

Resolutions were adopted urging the state board of agriculture to put a potato extension man at work in the field, selecting one who might serve later as secretary of the state potato association just formed. Messrs. Stuart, Bell and Horton were made honorary members of the organization. A rising vote of thanks was tendered the Grand Rapids, men, including Editor Brown, of the Fruit Belt, Editor McDonald, of the Herald, and County Agent Skinner, for their work in promoting and arranging the program for the state meeting.

Kent Co.

A. GRIFFEN.

MAKING FARMING LAND IN CENTRAL MICHIGAN.

While in dry seasons any ordinary cleared land may be made to produce fairly good crops, when wet seasons or prolonged wet spells come, then crop failures are almost sure to occur. No soil is at its best unless properly drained of surplus water, naturally or otherwise. To secure this the land must be either of an undulating or rolling nature with streams in proximity to receive the water, or else be relieved of surplus water by artificial drainage.

Tile of various sizes as required are by all odds the best system of draining soil we have today, yet unless sufficient fall be secured and an ample outlet provided they are of little or no value, and besides they will soon choke and fill with sediment. The first page cut shows a modern method of constructing a main outlet for the drainage water, embracing several thousand acres of comparatively level and gently rolling land in Gladwin county. This drain is to be completed by January 1, next, and will be about five miles in length when completed. While a small drain in comparison to many, still with its bottom of from six to eight feet in width and deep enough in all places for an outlet to the deepest tile one would care to lay, and with its 47 feet fall in its first two and a half miles from its outlet in Tobacco river, it certainly should do its required work satisfactorily. The soil through which it runs is clay and gravel, with not much sand admixture except in few places and, with its ample bank slope it will not cave or wash in readily. Two dredges of the type shown are in operation on different drains in this vicinity and another will soon be added. One must

not infer by this that it is a marshy country for, on the contrary, it is not, as no considerable marshes or marshy land, properly speaking, exist anywhere near, but as a tract of several thousand acres lies in one body, quite similar to a table land, there is an enormous amount of surface water to be disposed of, and it is to provide for the disposal of this water that these drains are being constructed. The approximate cost of such a dredged drain as this, with the necessary steel and cement bridges to span it, will be \$8,000, but it will be worth three times \$8,000, to the farming land it courses through the first season.

Gladwin Co.

G. A. RANDALL.

RECLAIMING SWAMP LAND.

Scattered throughout the state, and varying in size, considerable areas of swamp land are found. To the average man these swamps are only hunting places or sources of fence posts and wood. Their value as agricultural soil is seldom realized, yet some people have been very successful in farming them. Muck is the richest soil in existence, when properly tilled and drained, but the special treatment required and the rough appearance of swamp lands have retarded their development.

In general, there are two distinct classes of muck soil—one is black, the other is red. The latter is most commonly known as "Peat" and is of no importance in agriculture. All muck is the result of the decay of many trees and plants; a process which has retarded large amounts of surface water a large part of each year. The peat mucks are at an early stage in this decay and one often finds partly decomposed logs or plants imbedded in them. When dry this muck looks dull red and is quite flaky. Black mucks are well decayed, have finer particles, and are coal black when dry.

The most essential thing in improving muck land is to secure good drainage. Ditches four to six feet deep must be made every 60 or 80 rods, having sloping banks to stop caving. About every ten years they must be cleaned, even when a large fall is given.

The clearing of the land seems like a long and tedious job but proper handling greatly lessens the task. Through early winter or late spring when the snow is not deep, the small brush should be cut with a "bush" scythe and allowed to lay just as it falls. Poplar saplings over an inch in diameter should be dug out by the roots by chopping around the base a foot or so each way, and then crowding the tree over. This removes the hard woody portion and makes plowing easier. As much vegetation as possible is killed although not all of the brush need be entirely cut off. In fairly hard cutting, one man can go over an acre in from two to four days.

In the spring the brush is quite dry and a fire set in some corner where the wind has a good sweep will burn most of the debris, leaving only large wet stumps and logs, which are then picked up into piles, allowed to dry, and burned. These usually burn up quite clean, leaving a level black piece ready for the plow.

Plowing and fitting the new piece of land is the hardest work of all. The plow used should be of special construction, having a knife point coulter and share, with a long rolling moldboard. Great length is needed to completely turn the furrow, as so many roots must be loosened and cut. No wheel is used as a rule, the depth being regulated by the beam clevis or by pressure on the handles. Furrows 14 to 16 inches wide are cut and turned directly into, and not lapping on, the preceding furrow. When the land is rolled a smoother surface, showing less green stuff results. Following the plow and roller, the disk harrow is one of the most important implements on the muck farm. The revolving knives cut and turn the soil in so many ways that it saves time and labor, and makes a fine seed bed.

Potatoes are perhaps the best crop that can be grown on muck soils the first year. They are especially adapted to such soft mellow earth, with its abundant moisture and plant foods and fabulous yields have been reported. A short time is required to grow this crop while the advantages are that the cultivation keeps the weeds down well and the potato vine is not hurt by frost, especially if planted fairly early. Rye can be sown on the potato ground by simply disking it over once or twice and seeding. Grass seed can be sown with the rye and in three years a meadow stands where formerly only bushes grew. Meadows usually last three or four years before they need be plowed for potatoes

again. This is only one rotation but others can be practiced with equal success. People near town will find a truck garden profitable, while others might raise corn, millet, beans, or grain crops. Nearly everything will grow and prosper on muck. Ingham Co. L. C. WHEETING.

SOIL AND FERTILIZER QUESTIONS.

Lime for Alfalfa.

I am going to sow some alfalfa and want to put forth every effort to make it a success. Do you think I will need to apply lime? My land is clay. Is there any way I can benefit my wheat in the spring, besides top-dressing with manure? I should have used commercial fertilizer when sowing, but never have used any of that. I read what a wonderful thing crimson clover is in New Jersey. Can you tell me anything about it? I was thinking if it grew good here it would be nice to sow for a cover crop in our orchards. Allegan Co.

SUBSCRIBER.

It is possible that you don't need any lime on your soil for the successful growing of alfalfa and clover. The only way is to find out by testing the land for acidity. The most practical way is the clover test. If clover does well, if you have no trouble in getting a catch of clover, if you can raise two tons and two and one-half tons of clover to the acre then you have a sufficient amount of lime still in the soil and you will not have to supply any for your alfalfa. On the other hand, if you have been having trouble in getting a catch of clover, if the clover has been killing out, and it does not grow luxuriantly the probability is that the soil is getting acid and should be neutralized by the use of lime. When you once get this condition the only proper thing to do is to lime the soil. You can also give your soil the litmus paper test. Go to the drug store and get five cents worth of blue litmus paper, get a teaspoonful of soil from various portions of the field and put it in a dish, make it rather moist, kind of a sloppy consistency, by adding rain water. Don't use well water because the well water may contain lime. Then put the litmus paper in. If in five minutes on taking out the piece of litmus paper you notice that the blue litmus paper has turned any tinge of red your soil is quite acid. Leave some of the litmus paper in for one-half hour and see if it is affected. If you can get any reaction your soil is acid, enough so that it will pay to neutralize it by using lime. Another good test for acidity is to take a teaspoonful of soil from various portions of the field, put it in a glass tumbler, add rain water, and then drop into it a few drops of hydrochloric acid which you can get at the drug store at small expense. If there is plenty of lime in the soil when you drop in this acid it will be effervescent, that is, air bubbles will come to the top because the lime in the soil is neutralizing the acid which you poured in. On the other hand if you get no effervescence it is a pretty good sign that your soil is deficient in lime.

Top-dressing Wheat with Fertilizer.

If you have no stable manure to top-dress your wheat and you feel that you ought to have some more plant food you can top-dress the wheat with commercial fertilizer. I never did this personally because I always put fertilizer in when the wheat was sown, but in New England, I understand it is quite a common thing to top-dress the wheat in the spring with commercial fertilizer. You can take your wheat drill and fasten up the teeth or the disks, and sow the fertilizer broadcast and then harrow it in if you desire. You can perform an experiment with very little cost by putting some fertilizer on one side of the field and then noting the results.

Crimson Clover for Michigan.

Crimson clover does not do well in Michigan, that is, it is not reliable. Our climate is too severe. With an exceedingly favorable winter it will live over and make a splendid cover crop, but it cannot be depended upon. Anything like a severe winter will kill it out almost entirely. This plant is perfectly reliable as far south as New Jersey but not in Michigan. Winter vetch sown with rye in August is much more reliable for Michigan than crimson clover.

COLON C. LILLIE.

ANOTHER METHOD OF CURING SEED CORN.

I notice a good deal in the Michigan Farmer about the best way to cure out seed corn. My method is to stick a long wire staple into the butt of each ear and by this means string the ears on a wire. This allows a free circulation of air about each ear, and is the best method I ever tried.

Tuscola Co.

C. R. CLARK

MAKING A CONCRETE MIXER AND ELEVATOR.

Will Mr. F. E. Smith, of Cass county who described his method of building a concrete mixer and elevator which he made for the work?

Iosco Co.

O. F.

I made a circular (six-sided) box 28 inches long by 24 inches in diameter, with one of the sides put on with strap hinges and fastened on the opposite edge with a couple of wood buttons. To mount this box I bored a hole in each end large enough to pass through a 1½-inch gas pipe, about 34 inches long. This gas pipe is securely fastened to the box by cutting in a tee about three inches from one end and putting in a short spur pipe eight or 10 inches long, which I securely fastened to the end of mixer.

I had an old mowing machine and as old iron is pretty cheap I took off the caps from end of main shaft and removed the ratchets and replaced one cap, while on the other end of shaft I slipped one end of the gas pipe axle of my mixer, after having bored a half-inch hole so it could be pinned on to the mower shaft. This supports one end of mixer while the other end of mixer shaft is passed through a board which is nailed on two posts set four feet apart, so a mortar box can be built right under the mixer.

Then I took off the mower pitman and run a two and a half inch belt onto the mower pitman wheel. If pitman wheel is not wide enough cut a wood wheel same size and bolt it on side of pitman wheel. My mower gears back 25 times, which makes mixer run just about right.

Now put in six pails of good gravel and one of cement, preferably putting in the cement in center of batch; start the engine, and throw mower in gear. If it won't stay in gear cross the belt and run mixer in opposite direction. Turn mixer six times over, throw mower out of gear when lid of mixer is down and dump batch into box. I mounted mower and engine on a platform some two feet high to make room for mortar box under mixer. If your outfit runs the mixer the wrong way so as to unscrew the mixer shaft at the tee a ¾-inch hole should be bored through the tee and end of pipe and bolt put in.

If you haven't an old mower use any mower, as it will not injure it but will take an hour or so to put mower back together as it might be necessary to remove the cutter bar.

Do not wet the cement until you have mixed through mixer and are all ready to fill forms, as you have to keep a man on the ground to fill pails and it just about keeps him busy wetting cement and filling pails, while the two men on top elevate, place in forms and tamp it down. By using six pails, one man will just about empty them while another man fills the pails.

A load of gravel and four and a half to five sacks of cement will be about right for a form 24 to 26 inches high where the wall is 3½ inches thick, and two men will run it through in about 15 minutes.

Now the elevator is much more simple than the mixer, but is much harder to describe. It consists of a frame set in a vertical position made of two 2x4-inch scantling about six feet long, with a board nailed across the top ends holding them the right distance apart so the bottom ends can be bolted onto the side of the engine skids, about a foot back from the center of engine pulley. Run a ¾-inch pipe through two scantling a foot or so above the top of engine pulley for a drum on which to run the elevator rope. Put a wood pulley on this pipe so as to line up with engine pulley. It should be three or four inches thick to accommodate a 2½-inch belt and should have a three or four inch flange on it so the belt will always hang in this wood pulley and not run off.

This elevator frame should lean forward (toward the gin pole), when not in use, enough so the elevator pulley is just above engine pulley, with the belt hanging on the elevator pulley and passing down around engine pulley but not touching it by an inch or so; so that, while the engine is or may be running, it has no contact with the belt, consequently the elevator drum is standing idle. Now to elevate, tilt the elevator frame back from the gin pole just enough to tighten the belt, when there'll be "something doing" right away.

The rope is fastened to the ¾-inch pipe by boring a ¼-inch hole and passing a ¼-inch bolt through pipe and end of rope. A drum, like any spool, must have two ends to it and as the elevator pulley serves as one end, to make the other end

put a wood wheel on the shaft near the opposite 2x4 standard, which can be allowed to play loosely between two ¼-inch bolts passed through the shaft. This keeps the rope from winding against the 2x4, which would soon cut out the rope. I used half-inch rope, common binder twine rope spliced together is all right.

Now, while the mixer can be set anywhere, the elevator must be set so as to line up with the pulley on top of gin pole. If set very much out of line the rope will stack up on one end of drum and will elevate too fast. Run a rope from top of elevator frame back through a pulley on top of a post and from there to top of silo. The man who elevates the mortar grasps this rope in left hand, pulls it slightly and stands ready to take the pail of mortar in the right hand at same time releasing his hold on the other rope.

It bothered us some at first to empty mortar into the forms when only three and a half inches apart. We took a piece of our No. 18 sheet iron about 20x28 inches, bent the corners down a little so it can be hooked over the top of inner form, then by holding in nearly horizontal position, the man who elevates can dump his pail onto it while the man who tamps can slide it into the forms and tamp it, using for a tamper a hoe straightened out and being careful to tamp next to each form to make a smooth job. It is a three-man job just about keeping each one busy.

Care must be taken to make the pulley on elevator about the right size. With an engine running 375 revolutions per minute and an eight-inch pulley on engine, a 10 or 11-inch pulley on the elevator will be about right. If the engine pulley were larger the elevator pulley must be larger to correspond. A man standing on top of a 40-foot silo don't want a pail of mortar coming at him like it was "shot out of a gun."

Anyone undertaking any new thing he never saw done must expect to learn some things by experience and must make up his mind to surmount any unforeseen obstacles. My gin pole was 50 feet high with a short arm running out from near the top to which the elevator pulley was attached. When we were working near the ground everything went lovely, but as the silo got higher the length of rope from silo top to top of gin pole would constantly grow shorter, while the length of rope from top of gin pole down to engine was just as long as ever and, of course, was heavier than the short end and soon overbalanced it and drew it through the upper pulley, so when my man went to send the pail down he found the rope hook was 30 feet above his head while the other end of rope coiled down over the running engine and became tangled up in it, fortunately doing but little damage. Three fish poles tied together soon brought the hook down again and a knot tied in the rope at the proper place prevented it running through the upper pulley any farther than we wanted it to. There are some things about the making of the forms and filling them I would like to add but this article is too long.

Cass Co.

F. E. SMITH.

FARM NOTES.

Killing English Sparrows.

Am bothered by numerous sparrows on my farm and would like to get rid of them. Would you please advise me of the best plan or method?

Berrien Co.

J. M. H., Jr.

In his book on Michigan Bird Life, Dr. Barrows, of M. A. C., gives the following method of destroying English sparrows, as the best available for general use:

"During midwinter, when the sparrows have congregated in the towns and cities and when heavy snow has covered most of the available food and they are pinched more or less for supplies, they should be baited for several successive days to some stable yard or enclosed area where they will gather in immense numbers if not needlessly alarmed. When several hundreds have thus been lured to feed regularly and the amount of food which they will consume completely has been determined, a similar amount of the same food, previously soaked with strychnine and carefully dried, is fed to them at the usual time. Ordinarily the whole of this poisoned grain will be eaten, and four-fifths of the sparrows will die within a few moments and within a few yards of the feeding place. The remainder will flutter a little farther away, but within a few hours every sparrow which ate at this place is likely to die. No danger whatever is to be apprehended to cats, dogs, pigs or other animals which might eat the pois-

oned sparrows, and if any poisoned grain is left uneaten it can readily be swept up for use at another time or can be destroyed by burning if desired. There is far less cruelty in killing sparrows in this way than by ordinary shooting or trapping, since experiment with caged sparrows shows that strychnine is very quickly effective and that the sparrows die from it with practically no pain at all. It is important that the poisoning should be done only during the winter season, when all native birds are absent, and in case poultry or pigeons are attracted by the baiting, they may be excluded by the use of coops made of lath, through the spaces of which the sparrows can pass freely while the pigeons will be kept out."

Ashes as a Fertilizer.

I would like to know the value of unleached ashes for light sandy soil per ton, as compared with other fertilizers. How much should I sow per acre on oat ground that I wish to seed to clover in the spring?

Tuscola Co.

C. R. C.

Unleached wood ashes contain from four to seven per cent of potash in one of the best forms for the use of plants. They also contain about two per cent of phosphoric acid and 32 per cent of lime. These figures apply to hardwood ashes; soft wood ashes are comparatively poor in potash, and would not be nearly as valuable. Hardwood ashes are estimated to be worth \$6 to \$10 per ton, when all of the above ingredients are figured at the price which they would cost in the form of commercial fertilizer for such soil as is mentioned in this inquiry, which is likely to be deficient in potash and also usually needs lime for best results with clover. It is difficult to advise how heavy an application should be made without knowledge as to the extent of the available supply, its cost, and the methods at hand for distributing same. Where a fertilizer distributor is available so as to get an even distribution, a much smaller quantity will give the same results that would be secured from a larger amount with less perfect distribution. Where they are available at reasonable cost, there is little danger of getting on too many ashes, but where only a limited supply is available, more economic results can be secured by distributing them thinly. The best method of applying is when the ground is being prepared for the crop, when they can be applied to the surface and worked into the soil.

Subduing Quack Grass.

Have a field that has some quack grass in spots and as I wish to put it into corn next spring would like your advice on whether it should be shallow or deep plowed to get the best results. Also state if there is any law by which one can compel the cutting of quack grass before it goes to seed.

Arenac Co.

W. B. R.

It is a difficult proposition to subdue quack grass in corn, in fact, ordinary culture will tend to spread it over wider areas. Spreading would probably be a little less if the land is plowed at a fair depth, but this will make little difference in subduing the grass. A late maturing root crop is better suited for a hoed crop where the eradication of quack grass is desired, as it permits of more thorough cultivation before planting and later cultivation between rows than is the case with corn. However, by using thistle sweeps on the cultivator, and hand-hoeing in the hill, it may be possible to keep this pest in fairly good subjection. The noxious weed law does not apply to quack grass, which some scientists say does not seed in this latitude. This, however, is not a safe dependence, but there is no doubt that it spreads mainly from the root stocks.

BOOK NOTICES.

The Cypress "Even Temperature" Silo is the title of Volume 37 of the Cypress Pocket Library. This little book contains eight working plans with detailed drawings and specifications for the erection of silos with dead air spaces to secure an even temperature and prevent the freezing of the contents. Address the Southern Cypress Manufacturers' Association, Hibernia Bank Bldg., New Orleans, La., for a free copy, mentioning the Michigan Farmer.

"The Diseases of Animals" is a book of brief and popular advice on the care and common ailments of farm animals, by Nelson S. Mayo, M.S., D.V.S., Professor of Veterinary Science in the Virginia Polytechnic Institute, and formerly Professor of Veterinary Science in the Kansas State Agricultural College, and State Veterinarian of Kansas. In addition to being a complete veterinary book this book contains chapters on the care of all kinds of stock, including farm pets, breaking of colts, training of dogs, judging and handling of horses, etc. This book contains 450 pages, 5x7½ inches, and contains many illustrations. Published by the MacMillan Co., New York. Price \$1 net.

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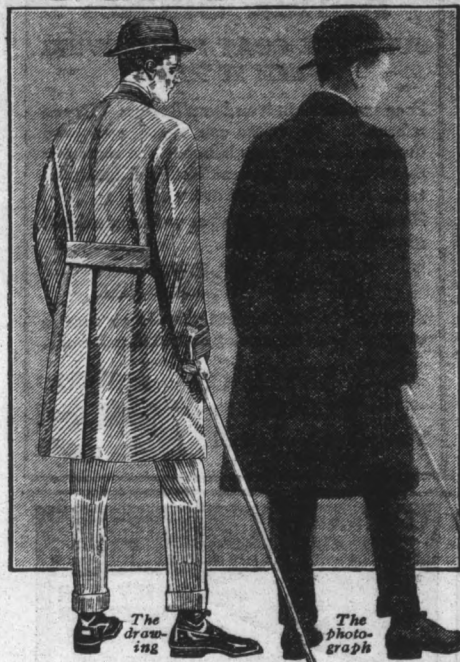
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December Suggestions for Fruit Growers.

December is the month in which the active orchard culture must be laid by and the culture of the man started. Good cheer, the prevailing spirit of the month, and the opportunity for calm thought and study are useful instruments in man culture. Rightly used, December will thus become one of the most profitable months of the year from all standpoints.

This is the first month of relaxation the fruit grower has had for some time. The past few months have truly been ones of strenuousness, both mental and physical. But now there is time to spruce up a little, to look over the untouched pile of papers and magazines, and feel for a while like a man to whom time is no object.

Isn't it a pleasure to be free from the worry of the winds converting some of the apples into cider stock, of the pickers slow and careless work, or from the anxiety as to whether the barrel man will have those barrels delivered before the supply on hand runs out? Isn't it a real joy not to have a thing to think about but feeding the stove and the stock, toasting shins, milking for exercise, and going to town for fresh air and the latest news?

Most of our great men have found it advisable after going through a period of strenuous work, to rest up by taking a little trip. They find that it pays to get away from the scene of activity, to get a change of scenery for awhile. The fruit growers of this state have an excellent opportunity for such a trip. Every year the State Horticultural Society has its annual meeting during the first week in December. It not only offers opportunity for relaxation, but it is a three-day feast for the head and heart which every fruit grower in justice to himself and his work should attend. Words of wisdom are given by fruit experts of the country. Men in this state tell of the local problems and their solution. From them you will learn the causes of your poor results and receive light on many of the things which seemed hazy to you during the season. But best of all is the hearty hand clasp, and the give and take of the past season's experiences with your fellow growers. This is where the heart is made glad. Therefore the mingling with others of your occupation before and after the meetings should not be missed.

Attend the State Meeting Next Week.

The meetings this year are to be held at Traverse City, December 2-3-4. It is a little out of the way, but it is a place you ought to visit. They are doing things up there in the way of fruit growing, and it is almost certain that you will find an abundance of good natured enthusiasm there.

Among those on the program are: Clark Allis, one of the most successful fruit growers in western New York; R. E. Hanley, of Chicago, who will give us light on the marketing end of the fruit business; Roland Merrill, who will discuss the fruit which made him famous, the peach; and W. G. Farnsworth, of Ohio, who is always worth hearing. Prof. H. J. Eustace and O. K. White will represent the Horticultural Department of M. A. C. Prof. Eustace will talk on the cherry industry and spraying, and Mr. White will tell why some Michigan fruit growers do not secure better crops. From them you will get enough pointers to be worth the trip.

Enough of the program has been suggested above to make every fruit grower want to leave his home for three days and beat paths for Traverse City. Enough live topics discussed by live men have been left unmentioned to make him want to be there from the time of the opening ceremonies until the lights are turned out on the last day.

The various fruit shows about the state are also valuable. Even if they are only local affairs, they are worth going to. We learn big things, things that would be of great advantage to us in unexpected places. It is often right at our dooryard that we get things of greatest value. So it behooves us for our own benefit to attend all of these big and little doings. The man who is public spirited gains more by his public spiritedness than the public does, and there is no greater educator or developer of personality than a sane and healthful commingling with our fellow-men.

Reviewing 1913.

Sitting by the fire with one's feet stretched under the stove and the cat in one's lap, gives an excellent opportunity to think, which by the way, is a very healthful and profitable exercise if not

carried to excess. We have an excellent opportunity to review the past season in quietness and comfort—that is if the children do not make too much noise. But even under such conditions we should endeavor to find where we could have done better. Time spent in thought like this will reveal to us many little things which could have been done to make our work more efficient and still more economical.

Large business organizations pay special men to do this very thing, and it pays them a big profit in the savings they make each year. Growers need not pay efficiency men, as they are called, but will greatly profit by acting in that capacity themselves. It may have paid us to have thrown the old spray rig in the junk heap, or better yet, taking a course, or reading a good book on the making and mysteries of a gasoline engine. This precaution might have paid us a thousand fold for the time and trouble of study. Ignorance of the engine may be the most serious trouble in our spraying work. A little different arrangement with reference to the pickers and the packing table at harvesting time might have saved several cents per barrel in the cost of harvesting, and a figuring up of the cost of harvesting a barrel may enlighten us as to where some of the profits go. Maybe the picking receptacles were not of a convenient type, and the loss of time from this source may more than pay for a large number of convenient picking bags. Poor picking receptacles also make more liable the bruising of the fruit which would be another source of loss. These are only a few of the things that we might give profitable consideration at this time.

OAKLAND COUNTY HORTICULTURAL MEETING.

The November meeting of the Oakland County Horticultural Society was held at Milford, November 8, in conjunction with the Milford Farmers' Club. Although the day was cloudy, dark and windy, there was a large number of farmers and their wives present.

The country around Milford is well adapted to fruit growing, and being within easy access to Detroit by railroad and good wagon roads, the opportunities for making money from apples, peaches and small fruits, are good. The crowns of the sharp hills are ideal places for cherry orchards, and by utilizing the auto truck the fruit could be picked and delivered to consumers in Detroit the same day. For such purposes the almost barren and almost valueless places could be made to produce crops which would sell for more money than what can be produced on the low and level lands.

Mr. A. M. Bullock, of Lapeer, was present and gave a talk on "Fertility for the Orchard." He said his orchard soil is heavy clay. For several years he cultivated it and finally concluded that he was exhausting the humus. His trees did not grow to suit him and the fruit was not well colored. The dealers called his Baldwin apples Gray Baldwins. He sowed June clover and the trees put on a more thrifty appearance and the fruit showed more color. While the flavor of the fruit might not have been improved, he claimed that consumers seemed to prefer the nicely colored apples. He gave much credit to the clover.

The discussion which followed was both spirited and interesting. Mr. L. R. Hunter, of South Lyon, an experienced and extensive apple grower, said that he could not agree with the speaker as to the plan of managing the apple orchard. No one rule could be made to work to the best advantage in all cases. Trees depend a good deal on the air and the moisture in the soil. The nutrients come, of course, from the soil. The best means for holding the moisture for the use of the trees is the dust mulch. If about the first of August the right kind of cover crops are sown in the orchard, to check the growth of the trees, and prepare them for winter, then by plowing under the cover crop the following spring, the humus can be maintained and the nitrogen necessary for the growth of the trees will be supplied. When conditions indicate the necessity for the use of potash and phosphoric acid, he believed in applying those plant foods. He mentioned one of his orchards where the fertility had been supplied with barnyard manure which he had applied every other year.

Mr. W. D. Flint, of Novi, talked about "The Efficiency of the Auto Truck." After having had a considerable experience in marketing fruit with a truck, he concludes that one not only saves the farm horses, but that they are a great time-saver. A large quantity of fruit can be hauled to market in a short period of time. Fruit can be allowed to ripen until at its best, and then delivered to customers just at a time when it will give the best satisfaction. The auto truck can be utilized to advantage on the farm at all times of the year when the roads are in a suitable condition. He remarked that many owners of trucks are prone to overload them.

Wayne Co.

N. A. CLAPP.

Cut cions for grafting in December. Tie in bundles and pack in moist sand.

Dairy.

CONDUCTED BY COLON C. LILLIE.

OLD OR NEW COTTONSEED MEAL.

Which is the cheapest feed to buy, cottonseed meal that is two years old, at \$1 per cwt., or fresh cottonseed meal at \$1.50 per cwt., to feed to dairy cows?

Eaton Co. SUBSCRIBER.
If last year's cottonseed meal is prime meal and has been kept in a dry place there is no reason why it isn't just as good today as it was the day it was stacked up. If it has been kept dry it has not deteriorated in value, undoubtedly. And I don't see why it isn't just as good as the new meal. I certainly would take a chance with it at the prices mentioned, and I believe that you would get just as good results with prime meal a year old as you would from freshly ground meal. So far as my experience and observation goes, cottonseed meal does not deteriorate by being held for a considerable length of time like corn meal. When you grind Indian corn the fat in the meal seems to ferment or deteriorate and it loses its fine flavor, and consequently I do not like to buy corn meal in a commercial way. I would sooner buy the corn and grind it myself and have it perfectly fresh, but cottonseed meal being cooked before it is pressed out doesn't deteriorate in this way. It doesn't lose its flavor by being held over. Not only that but we don't get any of it until after it would have lost its best flavor anyway, and I am quite certain that you will find the old meal will give just as satisfactory results as the new meal.

A GOOD RATION.

Is this a good ration for my milch cows? If not will you tell me in what way I can change it? Mammoth clover, bean fodder, shredded cornstalks for roughage, each once a day. Cottonseed meal, one part; wheat bran, one part; ground feed, two parts. Ground feed consists of two parts cob meal, one part oats. Expect to feed one pound of grain mixture to each four pounds of milk given. If this is not a good ration will you please suggest a change?

Washtenaw Co. F. C.
I can criticize this ration only in the most favorable way. It is a splendid one. With the roughage which F. C. has on hand, he has planned the grain mixture so as to make a balanced ration and he intends to feed grain in connection with this roughage in about the right proportion. There is nothing to be said against it. I would simply offer this suggestion, that in mixing the cottonseed meal with the other grains one is liable to not have it thoroughly mixed, and if he has heavy producers and feeds one pound of grain to every four pounds of milk he may, in some instances feed more cottonseed meal than is necessary or desirable and so I would suggest that you feed the cottonseed meal separately, and not feed over two pounds per day to any cow. The smaller producers I wouldn't feed that much. In no instance would I feed over two pounds. Then mix your grain, your bran and your corn and cob meal and oats together in the proportion which you have suggested and feed enough of that to make one pound of grain for every four pounds of milk produced. This precaution of course might be entirely unnecessary but I am afraid to feed too much cottonseed meal. I would rather be on the safe side, and I offer this merely as a suggestion.

WHAT GRAIN TO FEED WITH CLOVER HAY.

I am milking five cows for the winter and have nothing but clover hay. Would like to know what kind of feeds would be best for producing the most milk.

Saginaw Co. SUBSCRIBER.
Since clover hay is not quite as rich in protein in proportion to carbohydrates as alfalfa, the grain ration could be varied somewhat and make it more economical. While I think corn and oat chop would be the best kind of grain to feed in connection with alfalfa as an entire roughage ration, with clover hay it would be an excellent thing to mix a little bran with the corn and oat chop. For instance, if you would mix corn meal, ground oats and wheat bran together in equal parts by weight and feed in connection with clover hay it would make a nicely balanced ration and a good one. It would, of course, be a little expensive and so would the ration with alfalfa alone as

roughage, because these are all expensive feeds. I think everybody should have some kind of roughage to feed that can't be disposed of to advantage for cash. In the whole list of coarse feeds there is nothing equal to corn silage. No other feed can be grown as cheaply and it furnishes a succulent food. Then, too, where a man has corn, or bean, fodder that would otherwise bring him nothing, he can work this into a ration for dairy cows, or some other kind of live stock, and get something out of it, and sell it for cash to the cow. Where there is nothing but good salable hay to feed for roughage it makes the ration somewhat expensive, but with good cows he would probably be able to turn a profit even at that.

THE TUBERCULIN TEST AND THE FARMER.

(Continued from first page).

The cost of putting the stable into a sanitary condition in which to put the cows after they have been tested, is another proposition. It is one that ought to be attended to anyway, and one which the law will compel a man and really does compel a man to attend to now, who wants to sell his milk for market milk, for human consumption direct, unless it is from tuberculin tested cows or unless it has been pasteurized so that the germs of tuberculosis have been destroyed. I will go farther and say that I believe the time is coming when no farmer can sell butter or cheese that is made from milk where the cows are not tuberculin tested unless the cream or milk from which it is made has been pasteurized in order to destroy these germs. It may be some little time before this comes, but I am sure that it is coming, and really it is the only way to clean up our herds of tuberculosis. To ask the milkmen, the men who sell milk direct, to clean up their herds is only going a short way. The results are only temporary, because the milkman must buy his supply of cows from the outside. If he buys them from infected herds then he is liable to introduce tuberculosis into his herd again. Certainly after he has cleaned up his herd he should not buy any animals before he tests them for tuberculosis. But when the time comes that nobody can sell butter or cheese from cows that are not free from tuberculosis, then we will have a cleanup all along the line, which will be permanent. Then by having stables properly ventilated and properly lighted in the winter time there is very little danger of this disease occurring again.

But over and above the material standpoint for argument in favor of the tuberculin test there is really another argument, and that is a moral one. I am not prepared to say just how much danger there is of children, consuming milk from infected cows, getting tuberculosis. I am one of those who believe that the danger is not very great, and yet scientists seem to have demonstrated that it is possible, and this being the case we must admit that it is possible. Therefore when a farmer sells milk from infected cows to be used as a food for children, even babies, in the cities, a grave responsibility rests upon his shoulders. No farmer, I take it, who believes that there is a chance for a child to get tuberculosis from infected milk would want to sell milk from infected cows. It is too grave a responsibility for any man to assume. And if he looks this subject all over carefully and conscientiously I think it is evident that he will see that it is up to him to free his herd from tuberculosis and keep it free from tuberculosis if he intends to sell his milk for direct consumption for the people in the city. Not only this, but the members of his own family are in danger. I don't think any grave danger, but scientists tell us that there is danger. It may be that not one in ten thousand would get tuberculosis from an infected animal, but who wants to be responsible for that one in ten thousand. It is a very grave responsibility which I assume that no man, who understands it, wants to shoulder.

COLON C. LILLIE.

BOOK NOTICE.

"Concrete Roads and Pavements," by E. S. Hanson, affiliated member, Western Society of Engineers, author of "Cement Pipe and Tile," etc. It is a book of 227 pages, 5x7½ inches in size, containing up-to-date information with regard to the building of concrete roads and pavements. It is profusely illustrated, showing many types of concrete roads and containing the statistics with regard to the cost of labor, material and other facts. Published by the Cement Era Publishing Co., Chicago, Ill. Price \$1.00.

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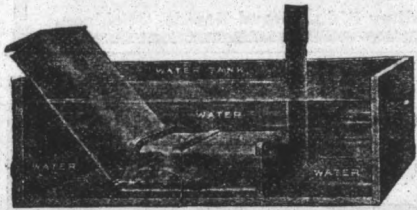
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Live Stock.

FEEDERS' PROBLEMS.

Silage as a Feed for Sheep.

Will you advise me if corn silage can be fed successfully to sheep? I have understood that feeding it for three or four years would cause disease in flock. If I put up silo in spring it would be for the special purpose of feeding sheep. Would like to hear other farmers' experience on this subject.

Kent Co.

C. L. F.

Formerly it was supposed that silage was valuable only as a feed for the dairy cow, and there was considerable skepticism among many dairymen with regard to the effects of silage on cows to which it was fed for a number of years. Even at the present time, there are a number of farmers who contend that silage is detrimental to cows, notwithstanding the fact that experienced dairymen have everywhere considered that it is an indispensable feed where dairying is practiced. There is no doubt but that so far as the dairy cow is concerned, that any injurious effects which are noted, are due to improper methods of feeding ensilage, rather than to the feed itself. This also, without question holds true with sheep, and wherever unfavorable results have been noted in the feeding of silage to sheep, it will generally be found that the trouble is due to the fact that feeders have tried to make it the main part of the ration, instead of using it simply to provide the needed succulency in the ration. Unquestionably a succulent feed is practically a necessity in the ration, where the best results are to be secured with the early lamb crop. The English mutton breeds of sheep have been almost developed on a ration composed largely of roots. Where roots are available, they will furnish this desired factor of succulency in the ration, but where they are unavailable ensilage may be made to take their place with very satisfactory results. It should, however, be made from very well matured corn, and fed only in limited quantities with other factors in the ration such as will make a proper balance of the food nutrients contained in the ration. It should be fed in connection with hay of good quality, preferably clover or alfalfa, and in connection with a light grain ration composed of bran, oats and oil meal. In practically every case where silage has been fed thus intelligently, no deleterious results have been noted, and the flock owner has become a prominent advocate of ensilage as a succulent factor in the ration for the breeding flock as well as the feeding sheep or lambs.

Molasses as a Stock Food.

I am intending to feed molasses to my stock this winter and I am at a loss as to how and how much and how often to feed to animals. Is it a good feed for hogs and cows, or is it just used for horses? And would it be wise to feed it to spring calves which I intend to winter? I also would like a recipe for some good medicine to prevent horses from getting indigestion during the winter months. I might add that I am feeding Sal-Vet to my horses.

Ogemaw Co.

H. W. B.

Molasses has been used much more extensively in some other countries than in the United States, and in every case it has been found a valuable addition to the ration, from the standpoint of its palatability and healthfulness, and in many cases it has proven an economic factor in the ration, particularly for horses. In his work on Profitable Stock Feeding, Prof. H. R. Smith, of Nebraska, quotes from an article by J. H. Berns, in the American Veterinary Review, in which he reports an experiment in the feeding of molasses to horses, in which one hundred horses, averaging 1,700 pounds in weight, at heavy work, were used. These horses were fed night and morning one quart each of molasses diluted with three quarts of water mixed with six pounds of cut hay, 1.5 pounds of corn meal and 2.5 quarts of bran, the noon meal consisting of five quarts of oats, and an additional feed of hay was given at night. In this report Mr. Berns says: "Molasses of a good quality is a most nutritious food for horses, easily digested and assimilated, and will in many cases correct faulty digestive process, and horses will do fully as much work and at the same time remain as a rule in much better condition than animals fed on dry feed solely, and the cost of feeding is reduced 25 to 33 per cent." This latter factor would, of course, depend on the relative cost of feeds. This author, however, calculates that one quart

of molasses is equivalent to three or four quarts of oats as a horse feed when fed in proper combination with other feeds.

Prof. Henry, in his work on Feeds and Feeding, refers to experiments in Sweden, where 3.3 pounds of molasses was fed daily to dairy cows by diluting with twice its weight of water and pouring it over the feed. Work horses were fed 2.2 lbs. daily, and pigs were successfully fed molasses with skim-milk. At the Texas station, molasses was fed in combination with cottonseed hulls and cottonseed meal to fattening steers, with good results. Where it was fed in connection with silage, less profitable results were secured.

There seems to be no question that molasses intelligently fed is a valuable addition to the ration for most animals, one important factor in its beneficial effect being that of palatability. There is no question but that palatability is an important factor in the effectiveness of any ration, and the addition of molasses to other feeds doubtless increases their palatability to an extent which produces beneficial results somewhat out of proportion to the actual value of the elements of nutrition in the molasses itself. Cane molasses contains, according to Henry, about 50 per cent of sugar and 12½ per cent gums. He compares it to corn in the matter of its content and ratio of nutrients, which is a suggestion as to the manner in which it should be fed when used other than as an appetizer. For this reason it will unquestionably give better economic results when fed in connection with oats, and bran when fed to horses and other stock than when fed in connection with corn or when fed in connection with clover or alfalfa hay than when fed in combination with corn silage or corn stover in the ration. But aside from the economic consideration and the relative feeding value of molasses as compared with other feeds from the standpoint of its nutrients alone, there would seem to be no doubt from the experimental evidence at hand and the opinion of the best authorities on feeding, that it may profitably be used to at least a limited extent in the feeding of all kinds of live stock, on account of the increased palatability of the ration and the apparent beneficial effects produced on the animal's digestion.

The best recipe to prevent horses from getting indigestion is to feed them intelligently and give them a proper amount of exercise. If the horses are not worked regularly, they should be turned out for exercise every pleasant day.

THE FARMER'S PORK BARREL.

Cutting up the Hogs, and Salting the Pork.

I use a sheep ax to cut up hogs. It cuts the bones better than a saw, and much quicker. The bones are not crushed, and the meat is not filled with bone sawdust. There are no bones in a hog except the jaws and teeth, that will dull a sharp ax, and the heads can be cut with a dull one.

For cutting up we have a bench made from a thick oak plank 18 inches wide and six feet long. A hog is taken down from where it hangs, and placed, legs up, on the chopping bench. The head is first removed and laid aside to be attended to later. The hog is then split down the center of the back bone with a sharp ax, care being taken to cut only through the bone—the thick meat along the backbone being cut true and smooth with a knife. One-half the carcass is laid aside to be attended to later and from the other on the bench the "leaf," or kidney lard, is removed, then the sparerib is taken out, care being taken to cut smoothly without hogging, and to take neither too much nor too little meat with the ribs. Spareribs can be made too spare, and more meat can be left on than is desirable. All the backbone is removed with the spareribs. It is better eating when fresh than after salting. There is a small strip of lean meat clinging to the backbone called the "tenderloin" which should be removed and eaten fresh, as it is considered a great delicacy then and not so good when salted. The ham and shoulder are next removed and are modeled in oval shape for fine appearance. The clippings from these, and other parts, are laid aside for sausage.

The side pork is cut in strips about four inches wide, extending from the back to

the belly. The thickest pork near the back is nearly all fat, and is salted by itself. The thinner parts of these strips, next to the belly is bacon. Hams, shoulders, and bacon are put into a vessel by themselves and the thick pork into a different vessel for salting.

Formerly we used oaken barrels, but the hoops rotted, and they leaked. We now prefer to salt meat in large earthen jars which hold 25 gallons each. They are more easily washed, do not get tainted, and never leak. Our reason for salting in separate vessels is this: The thick pork needs all the salt it will take to keep well, but the hams, shoulders and bacon should be salted only enough to suit the taste. They are not salted but put into a brine made with eight pounds of salt, two pounds of brown sugar, two quarts of New Orleans molasses, and two ounces of saltpeter dissolved in four gallons of water for every 100 pounds of meat. Make enough brine in these proportions to cover the meat completely to the depth of two inches over the meat, and keep it from floating by placing a stone on it. By having two inches of brine above the meat the scum, if any gathers on top, can be skimmed off.

Hams and shoulders weighing not more than 18 pounds will be thoroughly salted in six weeks, but need not be taken out until ready to smoke in the spring, as they will get no saltier. The jowls, being very bloody, should be washed before salting. The thick side pork is packed as solidly in the vessel as possible, using plenty of coarse salt between the layers, and filling all the cavities. The brine is made with dairy salt because it will dissolve so much quicker and does not require so much stirring. It is not put on the meat until three days after salting.

Pennsylvania.

J. W. INGHAM.

LIVE STOCK NEWS.

No matter how low cattle of an undesirable quality may go in the markets of the country, prime little yearling steers are constantly moving upward, nearly every week seeking a small advance. Recently there was a top of \$9.85 per 100 lbs. for yearlings in the Chicago market, with the best heavy beefs crossing the scales at \$9.35. This sufficiently illustrates the great difference in the demand for the two kinds of cattle, baby beef being enormously popular, while heavy cattle have but a limited sale. There has been quite a widening out in prices for beef steers in recent weeks, and while prime cattle have sold higher, the commoner lots have gone lower. It is highly probable that this widening of values will become still greater as the season advances, and stock feeders should use care in finishing off their cattle and avoid marketing them in poor condition.

Word comes from Texas that grass and water are unusually abundant, good seasonable rains having fallen, and large numbers of cattle will be pastured through the winter season. A short time ago a train of cattle left Kansas bound for Texas. These cattle were brought up from Texas last spring, but they failed to gain flesh during the summer because of the drought. Many cattle are being shipped from Oklahoma and Kansas to Texas grazing districts, and large cattle feedings in the range districts of western and southern Texas, where the grass is high and luxuriant, will go some way to make up for the marked decline in feeding operations in most parts of the southwest, where there was a serious shortage of the corn crop. In parts of Texas water holes that had been dry for three to four years are once more filled to overflowing, and springs are again running, relieving the farmers and ranchers.

During the recent convention in Chicago of the American Meat Packers' Association it was decided to raise a fund of half a million dollars to be expended for the purpose of encouraging the development of the beef cattle breeding and feeding industry, and a committee was appointed to consider the question how the money could be used with the best results. The committee has arrived at a plan, to be announced later. A prominent Chicago packer expresses the opinion that the committee's report will carry with it a good deal of encouragement for raising beef cattle. He says: "Our grazing facilities must be developed if famine prices for beef in the next ten years are to be averted." He admits that the new tariff will bring in a good deal of Canadian and some South American beef, but the Canadian beef will prove of only temporary help in meeting the market demand, while the Argentine beef is not of the choicest quality. The packers are heartily in favor of sending out agents through the country to talk personally with farmers and pointing out the profits to be derived from raising cattle.

It is reported that many corn belt cattle feeders have switched over to feeding lambs and sheep because of the dearth and unattractive appearance of many of the stock cattle offered in western and eastern markets. Immense numbers of range feeding lambs have been shipped into feeding districts of Wisconsin, Michigan, Ohio, Indiana, Illinois, Iowa and other states, and many farmers have bought good breeding ewes, with the intention of having flocks of their own raised on the farms.

Poultry and Bees.

VENTILATING THE POULTRY HOUSE.

The hen must have a greater quantity of fresh air, in proportion to her body weight, than any other creature on the farm, but it is imperative that this air be provided without the presence of drafts.

The hen has a very high temperature, as compared with other animals. It averages about 106 degrees F., while that of the horse averages 100 degrees under normal conditions. A high temperature indicates that combustion must go on very rapidly. The body acts in the same manner as a stove. If the stove keeps up a constant temperature of 106 degrees, the drafts will need to be opened wider than if it keeps up a temperature of 100 degrees only. So we see that for the rapid combustion that is necessary in the body of the hen, much fresh air is necessary. King, in his Physics of Agriculture, estimates that a horse weighing 1,000 lbs. breathes a little less than 3,500 cubic feet of air every 24 hours. Also that a 1,000-lb. cow requires less than 3,000 cubic feet, while 200 five-pound hens, weighing the same as the horse or the cow, will breathe over 8,000 cubic feet of air in the same length of time. It thus appears that if a horse and a flock of hens are of the same weight, the hens will require more than twice the amount of air given the horse.

Steering Clear of Drafts.

At the same time that fresh air is necessary, it is also essential that it be supplied in constant amounts and that the henhouse be so arranged that the air will not come in drafts. This does not mean that the house must be built over. There is hardly a henhouse on any farm in Michigan that cannot be well ventilated at the expense of only a little time and money. Probably a dollar would do this in most cases, and the loss of two fowls would amount to that sum.

We often notice that fowls roosting out of doors all winter seldom have frozen combs. As a rule, it is those fowls which are most comfortably housed that are most affected in this respect. The frozen comb is caused by this organ becoming heated in the daytime and then suddenly cooling below freezing temperature at night. It thus becomes evident that the henhouse may be kept quite cool and still result in no harm to the fowls, provided the temperature is about the same day and night. If a henhouse is 12 or 14 feet from front to back and has two windows, it may be easily ventilated by using muslin cloth over the open windows. Of course, the roosts should not be directly between the two windows. It may be necessary in some cases to first stretch chicken wire over the open window so as to give the muslin cloth something to rest against, thus guarding against its being torn by heavy winds.

Now of necessity there will be a light draft through the house, but the roosts are so far back that the draft will not circulate back far enough to get to them. This will give the fowls plenty of air without subjecting them to drafts.

Carrying Foul Air Away Quickly.

King, in his Physics of Agriculture, again points out that the poisonous principle given off in the breath of one hen is much more poisonous in its effects if re-breathed by other individuals than if re-breathed by the same fowl. Since we often find 50 or 75 fowls in a single pen, the bad air should be carried off as quickly as possible, that the hens may not be compelled to inhale air that has passed through the lungs of another fowl.

The hen cannot sweat. As has been stated, her temperature is very high and so waste body products are formed and given off very rapidly. Furthermore, all that matter which passes off as urine in other animals must be passed from the body of the hen by the respiratory system, and so we see that she has only two avenues for the escape of the waste products. In order to do the work that is imposed upon her, nature has very wisely provided her not only with a good pair of lungs but also with a system of air sacks which extend to all parts of the body and is even connected with the cavities in the bones. This elaborate arrangement provides the fowl with means of passing off the waste materials which are formed by the rapid oxidation constantly going on within her body.

The air should be dry. Very often we find in the henhouse a damp atmosphere

which is the result of poor ventilation. A rapid change of air keeps the atmosphere dry, while air that is allowed to remain still soon becomes charged with moisture given off by the fowls.

In conclusion, do not allow the hens to roost in a draft but give them plenty of fresh air. This enables the body to do its work thoroughly and keeps the fowl in a healthy, thrifty condition. Unless kept in this condition we cannot, with any degree of justice, expect her to lay the greatest possible number of eggs.

Ingham Co.

I. J. MATHEWS.

HOME MARKETING OF HONEY.

The problem of marketing honey at home has caused many to follow the course of least resistance, that of sending their honey to the cities and receiving a much lower price than would be possible to obtain in their own town or vicinity. This is not an invariable rule, however, as some places cannot use the entire amount that is produced in the locality. By studying the situation much can be done with the home market, no matter how small and discouraging.

This question will receive much thought and attention from producers this year, as a very large honey crop has been obtained in the north-central states. Honey markets in the large cities are overcrowded—"more honey than we ever had" they say. This will cause the market to weaken and drop in these centers. Never was the advice, "market at home," more needed.

A surprisingly large trade, with good profits, can be built up in every small town. This will bring an increasing revenue every year if one produces only honey of the best quality, honey that is of good body and fine flavor. If you produce extracted honey, do not extract until the honey is fully ripened and capped.

A plan that has been very successful in building up a trade is that of giving away a sample of honey and personally talking with the lady of the house. A can of extracted honey is taken to the house and the lady of the house sought. She is told that you are not selling honey today, but that you are giving it away. Ask her for a dish that you may give her a sample. This can easily be drawn from the can by means of a honey gate. A little talk on who you are, where you live, and that you produce the best grade of honey possible, should follow. Give the price per pound of comb and extracted, and if you have it put up in pails, tell the number of pounds they contain and the price. You need not hesitate to ask two cents per pound more for your extracted honey if well ripened.

The sizes of cans that I find best suited for the trade, are two, five and 10 pound. You can go through the country and sell a large number of 10-pound pails to farmers.

Explain to customers that honey is an excellent food, with many medicinal properties, and that it should be on every table daily. In many cases you receive an order for a small quantity, which shows that you have made a good impression and a beginning. If not, leave a card with your name and address printed on the front, and on the back the sizes of the cans and the prices. If you have comb honey, that may be quoted also, in single comb or case lots. Tell the customer that in ordering it is only necessary to sign the card, mark what is wanted and mail it.

The giving of a post card apiary scene or swarm of bees, either at the time of calling or after some time has elapsed, has worked well. This brings in many orders as it creates interest and talk about bees and honey. At the time of delivering an order a little booklet giving recipes for making medicine from honey, for cooking, and telling the food value of honey will create an increased consumption of honey. Such booklets entitled, "Food Value of Honey," or "Honey as a Food," can be obtained at low prices from bee supply houses.

A small town can thus be made to use up a very large amount of honey and at a better profit to the producer than if sent to cities. The cards cost little and the booklets need only be used once. The second year you will be surprised how readily your crop can be disposed of.

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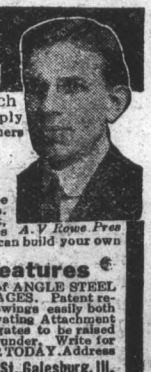
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DETROIT, NOV. 29, 1913.

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Please remember this as you look over the advertisements in this paper. We admit none but reputable advertisers, and

their advertising men are paid to tell you the truth.

CURRENT COMMENT.

In a recent issue of the Michigan Farmer, an article was published from the pen of a farmer correspondent who has made a special study of the bean situation, who suggested that by united action the bean growers of the state would be able to get a price approximating \$2.00 per bushel for this season's crop. There is also a well defined opinion which has been frankly expressed by some dealers engaged in the trade, that growers should hold back the crop remaining in their hands so long as the price remains appreciably below that figure. But notwithstanding the fact that official Detroit quotations which appear weekly in our market report have remained close to the \$2.00 mark, prices offered growers at country loading points have fallen materially below those quotations, although early in the marketing season, local dealers were paying about the official quotations for the new crop. In view of this fact, numerous subscribers have asked for an explanation of the situation.

As has been previously noted, the old crop was practically cleaned up last year, the deal being an unsatisfactory one from every standpoint on account of the poor average quality of the product. More favorable weather conditions at harvesting time, however, made this year's product of better than average quality, reducing materially the time and labor required in grading, picking and preparing the beans for the market. The general inclination on the part of growers to market this crop as soon as it is ready, accentuated, no doubt, by last year's experience, has resulted in the accumulation of stocks in the dealers' hands, and a natural inclination on their part to beat the price down to what they consider a safe speculative basis. Some of these beans—perhaps most of them—will be held for a probable advance in price, but of course many of them will be turned over when they will show a profit which will have a tendency to further postpone any advance in the general market. It is doubtless due to a realization of this fact that some dealers not identified with the two or three large concerns sometimes referred to as the "bean trust," freely express the opinion that growers who have not yet marketed their crop will make a liberal profit by holding them for a later market.

However, even when these opinions are discounted to the extent which any personal interest on the part of those who expressed them will warrant, good business sense would indicate that there is small chance of further shrinkage in values and a very good chance indeed for the making of a profit through the holding of beans in growers' hands under present market conditions. There is no overproduction of this commodity, and there is no doubt but that the few large concerns which will have possession of a large percentage of the available supply later in the marketing season, will make the most of their opportunity to force prices to a higher level, and the grower who has beans to sell will certainly be able to profit by any market advance which may occur by holding his crop for a later market, while under present conditions he must necessarily expect a speculative discount in price if he forces his surplus upon an already well filled market. Conservative marketing always tends to support prices, and there is no better field for an organization of growers to take advantage of this economic principle than in this commodity of beans, but until such an organization is effected, it is up to the individual grower to study market conditions and take advantage of the same economic principle so far as he may be able.

A New Idea in Farmers' Meetings.

Down in Ohio a new idea has been developed in conducting farmers' meetings. There were recently held in the southern part of that state, eleven so-called Farmers' Fall Festivals under the auspices of the Ohio College of Agriculture. On the theory that anything that helps to get up competition by the people of a community in the way of exhibiting live stock or farm and home products adds interest to an agricultural meeting and increases its benefits to all concerned, exhibits of this kind were made a specialty at these meetings. As an illustration of the drawing power of such exhibits, it is stated that in one town where a small street fair was held, and farm and home products exhibited, more than

1,500 people were in attendance. In connection with these exhibits, addresses were delivered on the subjects of fruit growing and stock raising, and some other topics of agricultural interest by representatives of the college.

This is not a new idea, except as applied to what might be termed a general institute. The stimulus of an exhibit has had much to do with the success of the local corn associations which are now quite numerous in Michigan, and the exhibit feature of the boys' and girls' clubs, Farmers' Club and Grange fairs, and other like educational meetings have been a very prominent factor in the success of these different movements. Horticultural societies have likewise profited by the drawing power and educational advantages of exhibit features, and possibly this feature may be of some value in increasing the educational benefits of institutes and other educational meetings of the kind. At least the idea is worthy of careful consideration on the part of local institute officers and others who are interested in and responsible for this means of disseminating agricultural knowledge.

Boys' and Girls' Clubs for Michigan.

Pursuing the plan which has been followed in the south, the United States Department of Agriculture is taking steps toward the organization of boys' and girls' agricultural clubs throughout the northern states. There will, however, be this difference, that this work will be done in co-operation with the agricultural colleges of the states where it is introduced, as has been the case with the farm management and field demonstration work in which such co-operation has already been established. In accordance with this plan, an organizer has been selected for Michigan, and the work of organizing boys' and girls' clubs will be pushed during the coming winter season. This, however, is not an entirely new line of effort for Michigan; several very promising junior agricultural clubs have been in existence in our state for several years, and the work as here conducted may be considered to have passed the nature of an experiment and be well established on a firm foundation.

One feature of this work which has been not a little criticized in the southern states by prominent farmers and farmers' organizations, is what is known as the prize farming feature, in which large cash prizes have been offered for the production of small areas or even individual samples of corn or other farm products, the claim having been made that this plan tends to promote an extravagant idea of agricultural possibilities and to eliminate the economic phases of production, a factor upon which all true agricultural prosperity must be based. In the work as at present conducted, however, every effort is being put forth to get away from the giving of large individual cash prizes, and substitute therefor scholarships or other educational advantages which will tend to stimulate greater interest among the young people in higher agricultural education. There should be no question but that with the experience of others upon which to build, together with experience gained from the successful conduct of such organizations in Michigan, the boy and girl club idea may be made helpful in Michigan, not only in promoting an interest in agriculture among the country boys and girls, but also by stimulating their parents to not only adopt better methods themselves, but to give their boys and girls better educational and business advantages along agricultural lines.

The office of roads Diverting vs. Grading of the U. S. Department of Agriculture.

In a recent circular advises the avoiding of steep grades on public highways, even at the expense of tillable land required to go around the big hills. This proposition of re-locating old roads, however, is one which will not appeal to most farmers who own adjoining lands. With the exception of a few main state highways laid out in an early day, Michigan roads follow quite closely along section lines, such variations as occur being due to the greater obstacle of lakes or swamps rather than to hills. Permanent improvement of these highways necessitates considerable expense in cutting down these hills to a suitable grade, but it would be difficult at this late day to re-locate any considerable percentage of our established roads which will be improved in their present location, and as permanent improvement will be impossible for many years at least on the great portion of earth roads, the farmers who find it necessary

to use them will be obliged to put up with the inconvenience of grades which might have been avoided had it been possible to lay out the roads originally from an engineering standpoint rather than on the plan which was adopted in our state.

HAPPENINGS OF THE WEEK.

National.

To ascertain the sentiment of the governors of the states of the Union on the question of intervention by this country in Mexican affairs, replies from 18 state executives showed but one in favor of immediate action, while the others were either opposed or had confidence in the administration at Washington to handle the situation as conditions developed.

The special session of Congress called by President Wilson in April will merge into the regular December session of that body. A recess will not be taken until December 20, which will be the first Congress will have taken since convening last spring. The currency bill can hardly be disposed of during the special session, and will therefore be the first matter of business in the regular session of December. It is already indicated that measures dealing with trusts will be taken up after the currency bill is out of the way.

The national executive committee of the Housewives' League has decided to initiate a nation-wide boycott on eggs. The purpose of their action will be to reduce the retail price of this commodity. The housewives believe that the wide margin of profit which dealers and storage men are obtaining in handling these eggs is out of all proportion to the expense of handling and to the service rendered.

The U. S. Department of Justice has announced that an investigation of cold storage plants throughout the United States will be undertaken. The general advance in price of cold storage food products is given as the reason for this move.

On Monday an important hearing began at Washington before the Interstate Commerce Commission. The proposition is to increase freight rates by approximately five per cent, the proposed increase affecting all lines north of the Ohio and east of the Mississippi rivers. It is expected that the hearing will extend over several months.

The rules governing the collecting of tolls for the use of the Panama Canal have been formulated by the war department at Washington. The rate of \$1.20 per net vessel per ton, which was fixed by President Taft a year ago, will be charged on vessels carrying both passengers and freight, the method of determining the capacity being to allow 100 cubic feet for each net ton, whether used for passenger or cargo purposes.

Fire destroyed six manufacturing plants in Detroit, November 21. The loss is estimated at from \$175,000 to \$200,000.

Governor Foss, of Massachusetts, is urging a reform of statutes regulating the prisons of that state. He declares that fully ten thousand persons of the commonwealth are thrown into prisons every year because of their inability to pay small fines; in other words, these men are imprisoned largely because of their poverty. The governor is confident that statutes which would enable such men to earn money for their dependent families as well as for their own support, would be a great blessing to the men and a considerable relief to the public.

Inasmuch as the high price of living continues in spite of the pre-election promises of the present administration to reduce same, an inquiry will probably be made by the committee on judiciary of the lower House of Congress, unless a special commission or committee is named by that body.

Meetings of and parades by strikers were the chief matters of interest at Calumet on Sunday.

Foreign.

In spite of the general expectation that a real crisis would have developed in Mexico ere this, the condition of political affairs there remains as obscure as ever. Huerta refuses to accede to the demands made by the United States, and the Mexican Congress is now convened and will either ratify or nullify the recent presidential election. It is probable that the election will be declared void, in which event Huerta will continue to hold his position as chief executive of the country. Just now the financial situation is in a most deplorable state, and almost every available means of collecting revenue for carrying on the government and continuing the warfare against the rebels have been adopted. The government is also handicapped for lack of firearms, since importation from the United States has been stopped. Orders from Japan, however, are expected soon, which fact gives the present administration some hope of prolonging its political supremacy.

Practically nothing but the great slide at Cucaracha remains to prevent the successful operation of the Panama Canal. The exact date for opening, however, has not been decided upon. This is due largely to the difficulty of determining what effect turning the water into the channels will have upon the landslides. Only actual observation can decide this matter and the day for opening the great cut will depend upon the findings of the engineers and geologists.

Last week a squadron of British war vessels was ordered to Mexican waters to protect British interests there. This action was taken without communication with the State Department at Washington. Upon learning of the order for the squadron to move to American points, Secretary Bryan issued a note to the British ambassador, stating that the United States would regard as an unfriendly act anything approaching a naval demonstration by British warships in Mexican waters. Upon receipt of this note, the order for the squadron to move was countermanded.

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

MICHIGAN FARMER
AND **LIVE STOCK**
PUBLISHED WEEKLY
JOURNAL
ESTABLISHED 1843.

The **FARM BOY**
and **GIRL**
SCIENTIFIC and
MECHANICAL

This Magazine Section forms a part of our paper every week. Every article is written especially for it, and does not appear elsewhere

Portland Head Light—First Light on U.S. Coast.

By CLARA NEWHALL FOGG.

PORTLAND HEAD light was established by the United States on January 7, 1791, and was first lighted three days later, with Joseph Greenleaf its first keeper, appointed by General Washington. The appointment, signed by Washington, is now owned by a descendant of the family, Mrs. C. H. Lamson, of California. Mrs. Lamson, a former Portland woman, is the great, great granddaughter of the first keeper of the light. The lighthouse has an eventful history. The state of Massachusetts began the building, but it had not proceeded far when the national government, succeeding to the general maritime jurisdiction of the states, completed the work.

Congress appropriated \$1,500 in August, 1790. The stone work was 72 feet high and the lantern 15 feet, making the whole 87 feet. Joseph Greenleaf, the first keeper, died suddenly while sailing a boat in Portland harbor, October 3, 1795.

Portland Head light stands far out at the end of Cape Elizabeth, at the extreme end of that reservation where Fort Williams guards the harbor. The lighthouse

has a certain dignity of its own, as if the spirit of that great general who signed the first appointment still rests upon it. In later days this duty devolved upon someone of lesser magnitude than the president of the nation.

From the base to the first building, the lighthouse is in its original condition. At first it was a stone house and the foundation of the old structure still remains. In the old section, the same today as in the time of Washington, one sees much that has remained untouched through the years.

Twenty-four years ago the modern section was erected but suffered much in the great September gale, still fresh in the memory of lighthouse keepers along the New England coast. The whole structure is 80 feet high.

Beginning as a second place light it was changed to fourth place on October 14, 1882. The government thought the Maine coast did not need lights so close together, but the people thought differently. So

Portland people got Congressman Tom Reed on their side and he had the light restored to its original height. It was quite a fight, for the government informed him that if he drew a line from Cape Elizabeth light to Half-way Rock, it left Portland Head four miles inside; but Reed insisted that he must have it restored, his principal reason being that his constituents wanted it.

Congressman Reed had a convincing way with him and in the end the government yielded. The records tell the story. By letter of October 14, 1882, the lighthouse board ordered that the tower at this station be lowered from 69 feet to 50 feet and that the light be changed from second class to fourth. But Tom Reed promptly raised \$5,000 and the light was restored to second class.

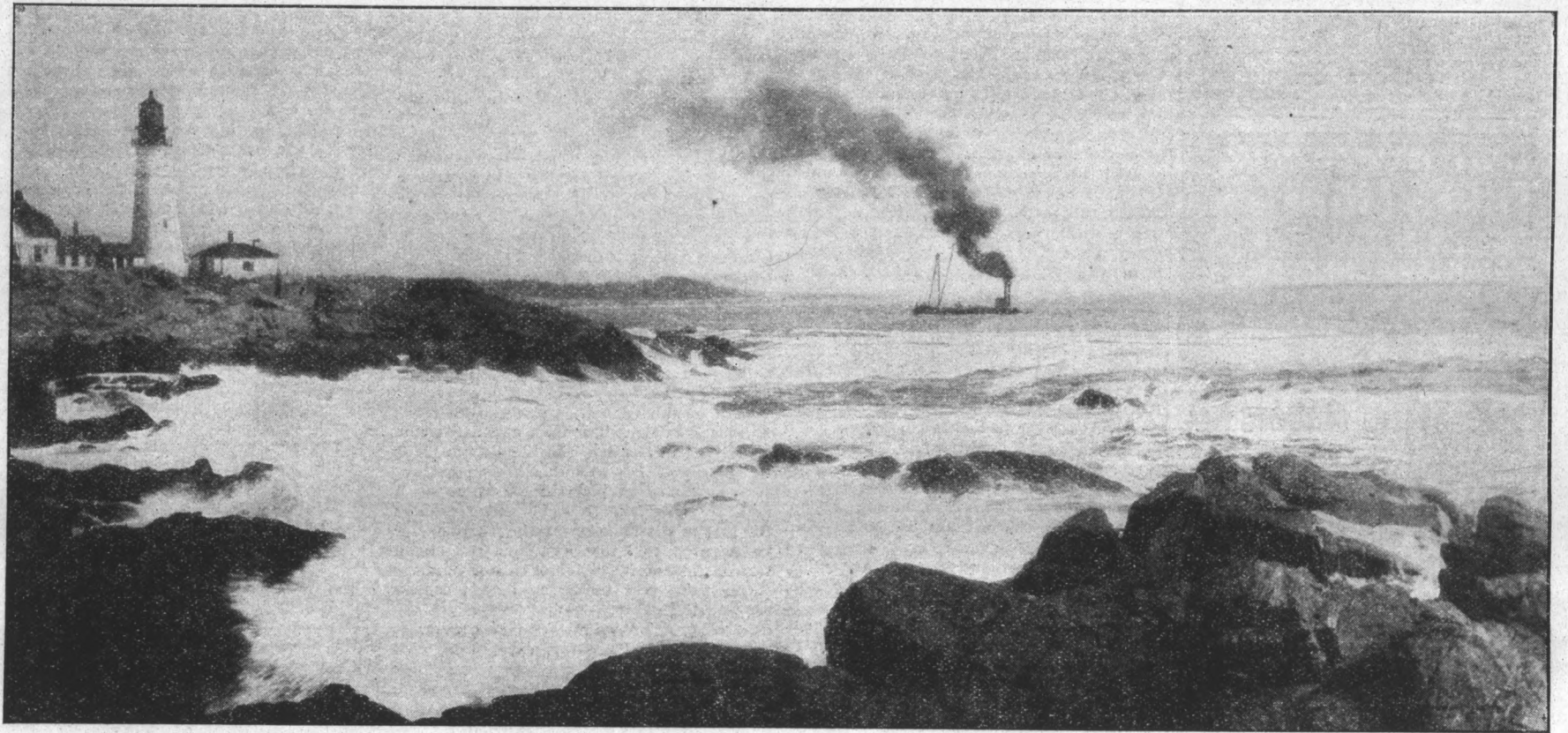
Joseph Strout, the present keeper, has held the office 42 years, and his father, Captain Joshua Freeman Strout, was keeper before him.

In the old days the sperm and whale oil

were kept in buckets near the bottom of the stairs leading to the light. That was before the time of kerosene, and then the stairs were wooden instead of iron. The old lard-oil lamps were harder to manage and sometimes the keeper would break as many as eight chimneys in one night. Then sixteen lamps were used, all burning whale oil. Now the light costs about \$15,000 and every part of it comes from France.

A lighthouse keeper is subject to probation and has to gain accurate knowledge of every detail of his work. Before he is admitted to the service he undergoes a rigid medical examination. He must be honest, competent, of good morals, and the utmost vigilance is expected of him. Joseph Strout fills all these requirements and deserves the well earned reputation he has attained for thoroughness of duty.

It is historic Portland Head, whose first keeper received his appointment from General Washington, toward which turn for guidance all that coastwise caravan that sails the bay of Casco.



Portland Head Light, on the Rock-bound Coast of Maine. Its Erection, in 1791, Marked the beginning of Lighthouse Construction in this Country.

UP to the time I was eighteen I had never done any work that I did not want to do. Do not suppose from this confession that I was often idle, for I don't believe I have ever in my life sat down for half an hour at a time and done absolutely nothing. I was just a girl, I fear like too many other American girls, who have everything done for them, and who do very little for others, or even themselves. But all this was to change very quickly.

My father died suddenly during the week that I was graduated from high school. After his affairs were straightened out we learned that he had left us just \$1,100. There would be nothing more to come from any source. My mother was quite stunned by the realization. I thought very little of it at the time, but still, \$1,100 I knew was not a very large sum. I suspect that each winter mother and I had spent more than that sum on our clothes.

My father's capacity for earning was large, but he spent everything about as

From the Tunnel's Mouth.

By KENSETT ROSSITER.

fast as it came in. He spent most of it on mother and me, but he made the mistake of not telling us how dangerously close the sails of our little boat were set. We were living in Los Angeles, in a rented house and in rather an expensive part of the city, and, though we kept one servant only, we went a good deal into society.

One thousand one hundred dollars then, with our furniture, books and china was the sum total of our assets. There was, however, a graphite property, or rather a prospect in the mountains some thirty miles beyond the city, which my father had, as we thought, foolishly purchased three years previously. This could not be considered in the nature of an asset. If anything it was a liability, although father insisted that some day the property

would bring us luck, and he kept paying out money for assessment work which never returned him a dollar.

In three weeks I was fortunate in getting a "job"—out here on the coast we don't call it a position—I was fortunate in getting a "job" in a music store at nine dollars a week. I was especially fortunate because I didn't know anything about music. Mother was certain that I couldn't "hold it down," but I did, and a month later I was raised to ten dollars a week. People seemed to like to buy music from me, and that, of course, was the only reason my services were desired, for that place, at first, promised to be only a temporary one. But I didn't like the work. I didn't know one note from another on the piano, except that the little raised ones in back were black and all the rest

white. I wasn't fitted for it. Goodness knows what I was fitted for!

In the meantime we had disposed of a number of our household furnishings and had moved to a small cottage on the outskirts of town. We managed to live on what I earned. I will not tell how trying this experience was, or how difficult we found it to adapt ourselves to the changed situation. It was harder, of course, upon mother than it was upon me, for all day I was busy. We never went out in the evening together. We never attended the theatre or heard music. On Sundays we often longed to go out into the country, but it was very seldom that carfare could be spared.

One evening, months later, I came home and found mother crying. I drew her down and asked her what had happened. She pointed to a pair of shoes that I had tried to mend the evening before. I had, at this time, two pairs, both of which were worn through at the soles, but as the uppers looked fairly well I used to mend them at night by cutting pieces of heavy



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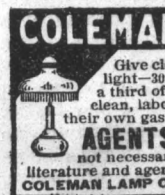


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cardboard, then pasting them together and allowing them to dry slowly. Mended in this fashion they would last possibly a week, when the repair would have to be made all over again. I always tried to keep them hidden from mother during the drying process, but that morning I had forgotten to put them away. I think this was the first time I had even seen my mother in tears, and it made me feel more discouraged than ever, for I knew that I couldn't earn more money than I was earning. I wasn't worth any more, and no one is ever paid more than they are worth.

A few nights later we had retired earlier than usual. I had been asleep some time when mother leaned over and gently touched me. "Ethel," she whispered.

I sat bolt upright in bed. "What is it?"

"I have had such a strange, happy dream."

"Tell me," I exclaimed, relieved that no one was in the house or the roof on fire. Mother was quite excited, which is so unusual for her that I was prepared for anything.

"The dream was so real," she went on, "but I hardly know how to make you understand. I know—I feel that the old abandoned prospect in the mountains holds something for us. Your father always said that some day it would bring us luck. Perhaps it may. What do you think of it, Ethel?"

I thought very little of it, but I had no intention of discouraging any hope that she might cling to.

"We should have a mining man investigate. It could certainly do no harm."

I tried to dissuade her from this plan, but she insisted that we make, at least, this effort. Upon enquiry I learned that it would cost considerable to have a competent mining man examine and make a report on the property. In fact it would cost so much that it would be impossible without making use of some of our principal. I expected that this news would check further consideration of the plan for the present; but the knowledge made mother only the more eager to try it. Finally I told her that I would get someone to go up there and look at the property. I did not tell her that that someone would be myself. Accordingly, on the following Sunday I took the train to the little town of Santico. The property was located in a canon about three miles north. I knew the way, for I had twice visited the place with my father. There was a trail, only, winding, but with no steep grades. Before, we had driven from the station in a buggy; now I walked.

It was early summer; the short grass was already seared and lay brown among the hills of gray sage. The arroyo, deep gouged by the winter rains, grew narrower as it clung to the folds of the hills. A road-runner darted ahead. It was California and good to look upon. How often during those last months had I longed for just such a day!

Another mile, and, rounding a bend, I came suddenly upon the object of my quest. Here the narrow canon widened into a space of several acres, then vanished around another turn. On the right, half hidden by an overhanging holly tree, was the darkened tunnel that yawned in the steep hillside like a huge bear hole. A few steps farther on was a deserted cabin. At the entrance of the tunnel lay a broken shovel, and instinctively I felt that there was not enough graphite of commercial value in the whole hillside to pay for a new shovel. However, it would not cost much to have an assay made, and I set about gathering specimens. There was quite a fair sized stream of water flowing along in a scoop at the side. This discovery surprised me for I didn't remember having seen water there previously. Upon investigation I found that it issued from the rock in a new drift. It was an underground stream, but what surprised me most was to find, upon dipping my hand into it, that it was hot.

I emerged from the tunnel with my specimens and sat for a long time upon a boulder, mechanically chipping my samples against the larger stone. Not a breath of air was stirring; not a leaf swayed on the holly tree. It was so still I could hear the bees working in the sage across the canon. I could hear the trickle of the water. As I sat there I became suddenly transfixed with a thought that dropped upon me, growing in clearness and intensity until a single dominant force seemed to vibrate from my very being. In the next few moments, as in a dream, a thousand images rushed to my mind, but, unlike a dream, I can recall every one of them even now. From where I sat I could see that stream of water so hot that it

almost boiled; and, just as I knew or felt that no mineral prizes awaited us in that darkened tunnel, so certain was I that from that day, from that moment, my life, as well as that of the little patient mother, had begun to change. Doubt never suggested itself. I knew that in a month's time that little cabin would be our home. It was with an exclamation of half surprise, half delight, that I rose and flung the samples from me. In my excitement I started to run down the canon. I ran, I think, till I was out of breath.

The supper dishes had been washed and put away and mother was seated by the table near the reading lamp before I even intimated how I had spent the day.

"I have had an expert looking at father's property," I finally announced, watching her happily to see her surprise.

"And what did he say?" Mother drew her chair closer.

"He didn't say anything. He's going to let me make the report. I'm not an expert now, but some day I intend to become one. Mother, dear, the mineral, the graphite in the tunnel isn't worth thinking about; I'm sure of it. But there is something else there more valuable than gold," and I went on to tell her of my discovery of the hot spring.

"We have so often talked of renting a little place in the country and trying to make a living by growing things for market. But when people go about growing things for the market they find themselves in competition with half the world. When they grow these same things out of season there are only a few to compete with. A great many people have made money from glass houses. They must, because they usually start in a small way and keep adding every year. We ought to succeed better than all the others, for with them the cost of heating is great, while we have a perpetual heating plant in the form of a hot spring that will flow forever out of the heart of that mountain. Mother, dear, you and I are going to put up some glass houses, and I'm going to work as I have never worked before."

My mother seized both my hands and held them for a long time. She was, from the first, thoroughly in accord with my hopes, and I needed no greater encouragement. We did not enter into the undertaking blindly; far from it. But it is unnecessary to tell in detail our plans during the next few weeks—the evenings spent at the library delving into reference books—our perusal of government pamphlets—our notes and items of expenses; the excitement of it all and the worry, too, for we had decided to risk every penny of our \$1,100 capital.

It was exactly five weeks and one day from the Sunday I had returned from the canon, that the lumber, glass and all of our personal belongings, in fact everything that we possessed, lay piled in front of the little two-roomed shack by the mouth of the tunnel. Upon the last load had arrived Mr. Samuels, our carpenter, who lived in Santico, the little town three miles below. He was an elderly man, but was not long in proving his value as a careful workman. Mother and I walked the entire distance from the station, for we wanted to know and love the canon which thenceforth was to be our home.

Our very first task was to get a new roof on the cabin. While it was yet the dry season, and we were in no danger of rains for several months, the present roof was so far gone that it would not exclude even the sunlight. I was determined to hire labor where I was convinced that my own work would prove unsatisfactory, but I was equally resolved not to shirk any task that I felt competent to do, and so, after Mr. Samuels had started me, I went on nailing shakes all day.

By evening Mr. Samuels had the ground leveled and ready for the floor sills, according to the plans for the two connecting houses we were to build.

Mother and I were alone. We had watched our carpenter climb into his ancient buggy, watched him disappear around the bend. The canon was so still at that hour that we hardly dared think of it. But we didn't think of it; a hundred things kept us busy until quite dusk. We had brought six Wyandotte pullets, intending to shut them in a coop by nightfall; but when we came to look for them we found them high up in the branches of a live oak. Immediately after retiring that night a coyote began yelping on the hill back of the cabin and in the morning two of our Wyandottes were missing. We found only a clump of white feathers, and after that experience we took good care that the remaining four were always closed in at night.

Mr. Samuels was on hand early and, much to my delight, I found that I was able to render him a good deal of assist-

THE LITTLE THINGS THAT MOTHER DID.

BY CHARLES H. CHESLEY.

Do you mind, my lad, the blessing—
Though in those far days 'twas hid—
And the touch so soft, caressing,
In the things that Mother did?

Oh, when home we came so weary,
How she met us at the door,
And the world that seemed so dreary
Took a brighter tint once more?

Do you think sometimes, my brother,
As we meet and face the strife,
What we owe our sainted Mother
For the precepts of her life?

Oh, the scalding tears bring blindness,
And I know words ne'er can tell
All the little acts of kindness—
We remember them so well.

We have known the touch of Sorrow;
Joy from us has not been hid;
But the part no hand can borrow
Are the things that Mother did.

ance. The eave-plates, roof bars, etc., had all been "run" at the mill, and the framework was erected in amazingly fast time. We kept Mr. Samuels nine days, then I commenced the work of glazing alone. It took me just seventeen days, and I worked all day and every day, while mother gave the exposed woodwork two coats of paint. Next we were ready for the piping. I was fortunate in being able to secure, at a very low figure, some second-hand pipe which had been discarded from one of the pumping stations in the oil fields, but which was entirely satisfactory for our use. Again we called upon Mr. Samuels for assistance. The laying of the pipe took another four days, but the system proved successful beyond my expectations. I found that we could raise the temperature in the houses twenty-nine degrees, and by the use of cut-offs in regulating the supply of water were able to maintain a very even temperature at all times.

The next morning Mr. Samuels appeared as usual. He had taken his tool-box the evening before, but now he held in his hand a hammer and saw and square. A peculiar twinkle shone in his honest old eyes, but no amount of persuading could make him tell what he intended doing. For some time he made measurements, then he went ahead. It was not long before it became apparent that he was constructing a small porch with a pergola above, all out of odds and ends that were left over from the greenhouses. He did it just because he wanted to, for there was no other reason in the world. And when he had it completed he planted at each side a crimson Rambler which he had dug from his own yard, and the effect made a wonderful change in our little home.

A week later, the first day of November, we planted both houses. We planted them to a special variety of forcing cucumber, for, in California, flowers were, of course, out of the question for a commercial undertaking. From the moment the little plants were up they had constant and increasing care. Sometimes a wireworm nipped a tap-root and occasionally a plant died from no apparent cause, but we had another to put in its place always. We kept them growing vigorously from the start. We learned more about the growing of cucumbers than I had dreamed was possible. We made several discoveries that apparently, had escaped the observation of the best authorities. It wasn't because we were better equipped but rather because we couldn't afford to make errors. Among other things we noted that the plants stood dormant, or nearly so, all day and did their growing in the early evening after the sun had disappeared. Sometimes we measured a plant at sundown and again several hours later, to find that in the meantime it had grown as much as an inch and a half. From the time that the first flowers appeared and the fruit was set, to the day of our first shipment, seemed interminable. Yet, in reality, it was a very short period.

On the twelfth day of January we sent our first consignment to one of the largest commission houses and asked for an immediate report. They reported that the shipment had arrived in a damaged condition, which, of course, materially affected the price. I have since learned to avoid dealing with the middleman, for the grower who is unable to market his own produce finds himself constantly in the toils of an octopus. A commission man should, and probably does, know the very best markets, but we have yet to learn of an instance where the returns would indicate this peculiar knowledge. However, we were glad to receive this first money.

Mother and I had figured pretty closely; we did not owe a bill any place, but until these first returns were received we had actually less than ten dollars with which to face the world.

As soon as possible, thereafter, I took the train to town and sought out the leading hotels. In every instance I found the hotel man as eager to deal directly with the grower as is the grower to deal with him, and in the evening I returned in high spirits and with several orders which would run throughout the year.

It was eight days before we had our next shipment ready. From then on the vines bore heavily. We shipped twice, and very often, three times a week, and continued sending until the middle of June. During January and February we received \$2.50 a dozen. Gradually the scale diminished—\$2.00, \$1.50, \$1.00, until finally they were worth only 30c. But we had managed to get our entire crop on the market at the highest prevailing prices. Field-grown varieties had already begun to make their appearance, and in another two weeks cucumbers were hardly worth picking and hauling.

Our success had surpassed even our most sanguine hopes. We had to add up our accounts several times to be sure there had been no mistake, but there was none. Our houses, complete, had cost \$904, and our profits, after subtracting transportation charges and all minor expenditures, came to \$917.35.

That summer, aided by a good garden, we were able to put considerable of this sum aside for further expenditures, and in the fall Mr. Samuels helped us in the construction of another house. We also added a kitchen to our home. Again we were successful in the larger undertaking, and the next summer mother and I felt justified in spending a short vacation at one of the beaches. We also visited a larger plant in another coast city, and, upon our return, began the construction of a single, large detached house. This entire building was given over to growing bell peppers, but its original cost exceeded our expectations and we found it necessary to borrow \$700 from the local bank. That season we were able to keep a little Japanese boy who rendered vastly greater assistance than his size would indicate, not only in the growing of stock but with the household work. We were able to pay off the loan of \$700 long before it became due, for our profits last year were a little over \$2,300.

This coming fall Mr. Samuels is to build a duplicate of the large house, and in the spring we hope that a new home is going to rise where the little cottage now stands. The canon is the same as the day we entered it. The trunks of the live oak trees have become a little more gnarled, the hills a little dearer. The crimson ramblers have covered the pergola, and the widening by the mouth of the tunnel has become a home in the truest sense of the word.

JUST SEEING.

BY MARY STARBURCK.

In order to increase the pleasure of life at no cost whatever, try to cultivate the habit of observation. Long, long ago there used to be in a school reader a little poem, recited often as a "piece" on Friday afternoons, which told of two travelers. On their return they were asked what they had seen. One replied listlessly, "Trees, rocks, hills and running streams." Naturally the interest he awakened was about what might have been produced by a list of words from the spelling book. The other traveler with great enthusiasm, exclaimed "Trees! Rocks! Hills! and Running Streams!"

By his manner he placed before his hearers the whole panorama that had given him such keen enjoyment, so that they not only felt a sense of refreshment but were filled by a desire to see for themselves these wonders of the world. The boys of the class who used that old reader never seemed quite to grasp the meaning of that elocutionary trick, but some of the girls with their more vivid imaginations, achieved great success, ringing out triumphantly the glowing words, "Rocks! Trees! Hills! and Running Streams!" The difference between those two travelers was just the difference in their powers and habits of observation.

Don't go through life like that distinguished Englishwoman who said that in her many years of travel she had found only two sorts of people. In a broad sense that is true. In a still broader meaning there is but one kind of people, just human beings. But if you observe carefully you will find that no two characters could be labeled for just the same

pigeon-hole. No two are exactly alike, and there is no subject that will better repay close observation than human beings. The study has never failing interest and no end. Moreover, it develops in the observer quite unsuspected depths of sympathy and appreciation, of courage and aspiration. From each person you meet it is possible to learn something worth while.

And this "trained power of observation" doesn't mean the acute perceptions of a Sherlock Holmes, but merely the "habit of noticing things" which may be acquired by any person of average intelligence.

A young girl who had trained her natural gift of observation to a high point of development became, after a severe illness, totally deaf. No mechanical contrivance could help her in the least, so that she was obliged to depend upon writing tablets or lip motion. She joined a class and with astonishing quickness learned to read lip motion. She, as well as her teacher, attributed her aptness entirely to her habit of observation. Among other things she had taught herself, half-unconsciously, to interpret the slightest change of facial expression, and since every person has a special vocabulary and a special viewpoint, this power of reading expression was a great help in guessing the probable words when there was hesitation on the part of the speaker or the words were not clearly enunciated.

Another deaf person, also unable to hear by any artificial means, always knew from the expression of the speaker when people were whispering or shouting to him and, strange to say, these vocal changes annoyed him quite as much as if he could hear. That was a disadvantage, to be sure, but it was more than compensated for by his skill in other directions, in joining in general conversation for instance. At one time at a dinner, where the hostess of course knew of his infirmity, he acquitted himself with such success that nobody else guessed it, not even the girl he took out, whom he had never met before. He often went to the theatre, and found much to enjoy even in a play with which he was not familiar, though of course he liked best the old stand-bys, whose lines he knew by heart. There was one very amusing incident in his experience. He actually saw a proposal of marriage given and accepted across the theatre by two people whom he afterwards found to be deaf and dumb.

Learn to observe. "The world is so full of a number of things."

Said Emerson: "Write it in your heart that every day is the best day in the year."

The man you meet for the first time puts you down as a good or an evil influence. Make a wholesome impression.

Some people spend most of their time "counting 'the stars in my crown';" they ought to be up and doing, and adding more stars.

THE UNDER DOG.

BY WALTER G. DOTY.

We are all of us fond of the poor under dog,

If he takes his position good-naturedly; But if he's a whiner Or abject recliner, He very soon loses our sympathy.

So if you are filling the under dog's part And the bones are few and your spirits fail,

It's just for the present, So try to look pleasant; And, whatever happens, keep wagging your tail!

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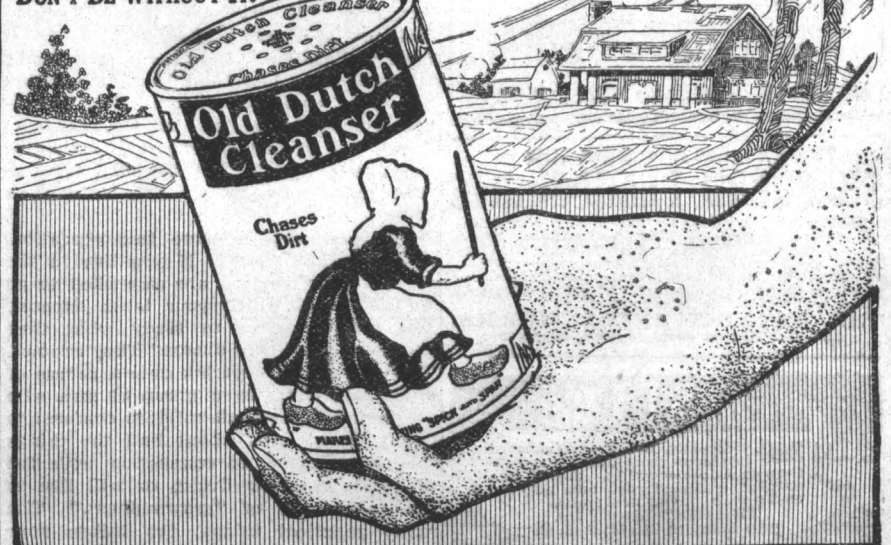
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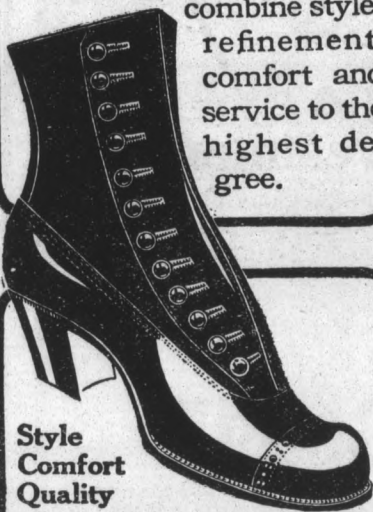
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Woman and Her Needs At Home and Elsewhere

The Blessings of Freedom.

ONE of the most widely talked about and least frequently experienced sensations in this broad land of ours is freedom. I make the statement boldly and confidently, notwithstanding the spread-eagle speeches and hysterical press statements regarding the land of the free, etc. It is the land of the free in name only, as I am sure every thinking man and woman will admit.

In what are we free, pray? Why, free to do as we please, you answer. Free to choose our religion, our friends, our occupation, our dwelling place. We have free speech and free press, free education. In short, we are absolutely free to do as we please so long as we do not infringe upon the rights of others.

Theoretically, yes, but actually, no. We are not free to do any of the things we say we are, although the law gives us that privilege, stands back, as it were, and tells us to go as far as we like and the courts will stop us when we have gone far enough. But you know what happens to the person who puts his blessed doctrine of freedom into practice. He is read out of good society, often hounded out of the community.

For it is not true, friends, that though given the right to be free we are still bound by traditions and conventions? How many of you, for instance, would feel free to get up in church during some experience meeting and tell what you actually think and have found out by experience about the doctrines of your church, no matter what the church is? You rise and say, most of you, not what you have thought out for yourself, not what you have lived, but what convention has taught you is correct. You have a neat little speech that couldn't possibly hurt anybody's feelings or be taken for heresy, and you deliver that. It is made up partly of church doctrine, partly of some pastor's sermon, partly from the church paper, but it is not made up from your daily living. Occasionally someone does dare to say something different, but she is put down as queer and not altogether responsible for what she says. She is trying her wings a little, seeking to see if she dare to use her boasted freedom. But your shocked glances as she attacks some of your favorite, man-made doctrines, warn her to subside.

Do women dress as they please? Far from it. In the secrecy of their own chamber they may don some comfortable, sensible garment, but their freedom goes no farther. They dress to suit the style, and the style is made to suit the greed for money of manufacturers and dress-makers who make their living by shackling women. Time was when farm women were practically free from this particular thralldom. But thanks to the enterprise of modern magazines, aided and abetted by a rural free delivery, the busy farmer's wife has the latest Parisian fashions delivered at her door right hot from the griddle. And she must consume them or hide her head in shame before her more ambitious sisters. The American woman dresses not as she wants to dress, but as fashion expert thousands of miles away dictate that she shall dress so that more money may flow into their coffers.

But, you say, we have free education. Free in what sense? If you live in the district your children are compelled to go to the school which your taxes support. But are they free to study what they choose or what they choose? They are not. They spend hours poring over a course of study laid down by a group of men who are bound to have all children conform to one pattern. And about half the things they study have no connection with the life they are now living, or will live in the golden age of "grownupness." The really practical things, the things your sons will need to know on the farms and your daughters in the kitchen, you teach them yourselves.

But there is still the free press. Look at the things the papers dare to print.

Certainly if the press isn't free nothing is. Granted the press seems free even to the point of license. But even the daring editor feels the pressure of the thumb of the heavy advertisers, and he is free just so far as his freedom does not deprive him of his own bread and butter.

Freedom is a blessed thing, no doubt.

But none of us know it. We are bound and shackled hand and foot by conventions, prejudices, customs, gossip, debt and worry. How many men who sit down at their tables are free from financial cares? Even with the boasted prosperity of the American farmers there is still a large per cent of them who find it hard to meet all payments on the farm and keep up with the needs of a growing family. Freedom, is it we have? Then give me death, to paraphrase the immortal J. Henry.

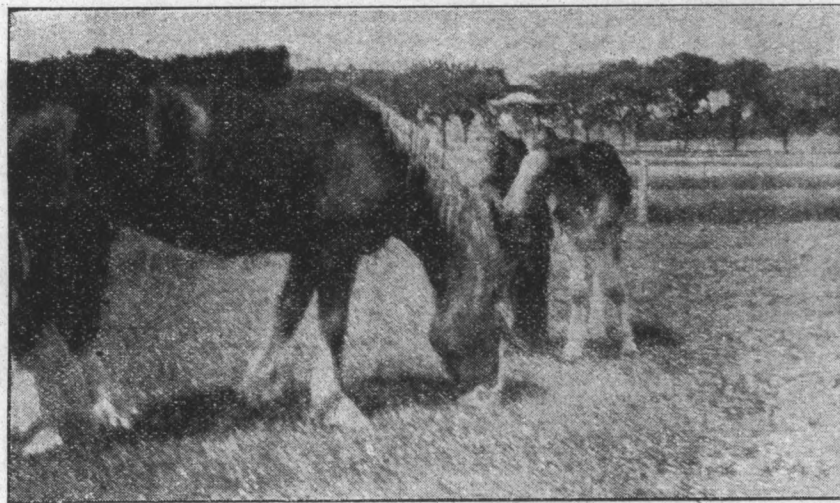
DEBORAH.

Business Training of the Farm Girls.

A CERTAIN wise farmer declared that no one was ever going to be able to say that his daughters had no business sense. He said that he hoped the Lord would make them pretty, that every woman should be that, but that he would see to it that they were honorable, and honorable not only in personal relations but in matters of dollars and cents. He said that as he looked at things the old joke about the woman who had overdrawn her bank account, offering to pay the overdraw by writing a check, was not a joke but a disgrace, and he had no intention of letting one of his daughters make such a humiliating blunder. He would not have wealth to leave his chil-

and sell it herself the money would be hers. It was a dear little colt, and the girl was delighted with the idea of having him for her very own. In raising him she studied the care of horses till she became the authority on horses for all the neighboring farms. And she drove so good a bargain, when selling time came, that she paid for her first year at high school with the price of her horse.

She is now getting her Master's degree in one of the great universities, and has supported herself ever since. She said, in speaking of her father's training, that the responsibility of raising the colt, of keeping exact daily accounts of his condition and cost, and of selling him herself, gave



"It Was a Dear."

dren, the farm was fairly prosperous, but the family was large, but he could teach them the value of money and how to take care of themselves.

His wife, busy as all farmers' wives are, was only too glad to have her husband ready to really share the responsibility of the children; and as she herself, through lack of business understanding, had been tricked out of the small inheritance left her by an uncle, she was especially glad to have her husband give this training to their girls.

The farmer began as soon as he thought the girls were old enough. When each one entered her teens she was given an account book, in which to record her business transactions, and she was allotted some work on the farm. This work she was paid for as scrupulously as if she had been a hired man, and paid for at the same rate. Because of their youth, however, the girls were not allowed to work but a few hours each day; but those few hours were on a strictly business basis. Nothing slipshod was tolerated; neatness, thoroughness, and concentration on the task were demanded.

The girls, under the spur of being so fairly paid, of feeling themselves and their work on a business basis from the start, learned early to respect their occupations. They became ambitious to do all sorts of things, and to perfect their work at the same time. One of the girls took charge of the chickens and from a small beginning—hardly birds enough to supply the home table—developed this in five years, into a profitable part of the farm, profitable enough to yield her her own living.

One daughter began by raising a colt. The farmer gave it to her on her birthday, telling her that if she would raise

her a grasp on money values and on business transactions that started her in life. When she is not getting her degree (which she studies for in summer school), she teaches at \$120 a month which will certainly prove that her business training is standing her in good financial stead.

What this farmer did for his daughters, every farmer can do. He can not leave them the protection of wealth, probably, at least only a few farmers can, but he can himself give them some home business training that will in the years to come help them to protect themselves.

HOME QUERIES.

Household Editor:—What would be good for a child's ears that are open on the top and every night the child rubs them so that blood comes? The child is eight months old and his ears have been like that since he was born.—A. G.

The trouble may be caused either by an impoverished condition of the blood or it may be hereditary. Take the baby to a good doctor and let him prescribe for it.

Household Editor:—What can I do with beef tongues?—Amateur.

They may be cooked fresh or corned and kept for later use. The fresh tongue should be boiled in salted water about two hours, until tender. Then set aside in the water to partially cool and remove the skin before it is entirely cold. It may be served hot, or cold sliced thin, with salad dressing. Pickled tongue should always be served cold.

Household Editor:—Is there any way of telling when you have a cup of butter without measuring in a cup? It is so hard to pack the cup solid and then you always lose some in scraping it out again, besides making the cup sticky for other things.—Mary B.

A half a pound of butter is one cup.

HER CHRISTMAS DILEMMA.

BY ALICE J. CLEATOR.

What shall I get for Grandma?
A shawl of softest wool!
That gift would surely suit her,
She likes things "sensible."
I saw one at four dollars
At Smith and Keene's today,
I really think that isn't
A cent too much to pay!

What to get Uncle Mason
I'm really at a loss.
He likes the modern poets.
I'll get Sam Walter Foss.
That costs about one-fifty.
And then there's Rover's collar.
Those leather ones at Judson's
Are marked down just two dollars.

Now what for Brother Robert?
My, it's so hard to plan
On what would be best suited
To purchase for a man!
Something about two-fifty—
A book, a fountain pen,
Or some kind of a knick-knack
That's useful for his den!

And then there's Grace and Gertrude,
Alice and Rose and Bes.
One dollar is the limit
For each, and maybe less.
Boxes of stationery
Will suit them every one.
Oh, yes, my list grows shorter.
I'm really almost done!

Let's see! Eight aunts and cousins!
I guess I'll take a look
And see just how much money
Is in my pocket-book.
Gracious! Last week I spent it!
Whatever shall I do?
I'll have to borrow fifty.
Perhaps 'twill help me through!

SOUTHERN WAYS WITH CORN MEAL.

BY MRS. JEFF DAVIS.

Corn Meal Sticks.

Beat until light, two eggs, then add one quart of buttermilk, two teaspoonfuls of soda, one teaspoonful of salt, one tablespoonful of sugar. Stir in enough meal to make a batter, not too thick, and add two heaping teaspoonfuls of flour. Lastly, stir in two or three tablespoonfuls of melted lard, or butter. Pour into bread-stick molds, and bake immediately. These are delicious.

Egg Bread.

One quart of sour milk, two teaspoonfuls of soda, one teaspoonful of salt, two eggs. Stir in enough meal to make a soft batter. Lastly, add two or three tablespoonfuls of melted lard, and stir not a moment longer than to mix it. Bake in gem pans, or in round loaf.

Virginia Corn Bread.

Scald one cupful of meal with three cups of boiling water. Add two well-beaten eggs, three cups buttermilk, one teaspoonful of soda and same of salt. Lastly, two tablespoonfuls of melted lard. Bake slowly in baking dish.

Fine Corn Bread.

One-half cup flour, one cup meal, two eggs, one-fourth teaspoonful of salt, one tablespoonful of sugar, or syrup, one cup of sweet milk, two teaspoonfuls of baking powder, one-half tablespoonful of lard, and the same of butter. Beat eggs, sugar and salt together; sift in flour, corn meal, and baking powder; then add milk. Lastly, add melted lard and butter. Bake in hot muffin rings.

Corn Crisps.

Scald one pint of fine corn meal until thoroughly wet; then add cold water until a little thicker than batter for waffles, and a teaspoonful of salt. Place on griddle in small cakes, and brown in fat salt pork drippings, on both sides; then put in oven on grate for a few minutes to become crisp before serving.

Mush Bread.

To one quart of sweet milk add two cupfuls of mush, two eggs, beaten slightly, a pinch of salt, and flour enough to thicken. Add half a teaspoonful of dissolved soda. If the mush is cold warm the milk and mix with it thoroughly before adding the flour. Bake quickly and serve with some kind of syrup.

THE BLESSING OF BEING BUSY.

BY T. L. B.

Divine writ has it that "He who will not work, shall not eat;" but work, my work, is to me both meat and drink.

Before choosing work as that for which I am most thankful I lined up my blessings in martial array: Food, raiment, home, friends, loved ones, determination, a free country, religion—everything. But none of them would fit half so well as cheerful, unremitting toil. It employs the mind and busies the hands, and unfettered by disease, disaster or affliction I am permitted the joy of daily performing it.

In the ranks of many the desire to work may seem absurd, the love of it to surpass all understanding. There are those

who shirk and those who look upon the semblance of exertion, either physical or mental, with disdain. To them my theme is uninviting. But theirs is not the fault; the trouble lies in the training and perhaps if unmolested they would naturally find some work they liked and do it. The mind craves an outlet for expression. And if that is not allowed in some creditable way, a worse thing happens. Its standards are lowered to idleness, peevishness, discontent and recklessness. The trained mind delights in exertion, in seeking out, in building up its native forces. When that is done, correct principles of life and citizenship are established. Then love supplants hatred; honesty, intrigue, and courage, frailty.

In honest labor the true farmer finds riches untold. He comes into harmony with nature's universal laws and can discern "tongues in trees, books in running brooks, sermons in stones and good in everything." The blacksmith's humble toil is rewarded by a night's repose. The musician's soul moves in a world of ecstatic strains caught from celestial symphonies. The artist's magic touch transforms canvas into vivid landscapes. The sculptor creates forms in the image of his Creator, and the writer's disciplined pen rings truth throughout the ages. To these add the thousands of men and women given up to business careers, soldiers, lawyers, teachers, doctors, nurses and hosts of others and you have the bone and sinew of any nation.

Occupation is the crying need of the times. By it the poor are clothed, the hungry fed, and the homeless sheltered. It soothes sorrow, buoy's the melancholy and chastens evil. It lessens despair, nourishes hope and strengthens faith.

Then why am I most thankful for my vocation? Can't you see? It is because having that, all things else, as it were, are added unto me. Knowing my work I must help my fellowman because "the least flower with a brimming cup, may stand and share its dew-drop with another near," and if we labor in the spirit of the woman singing at her spinning wheel it will not be a burden. Although drawing full spindles of perfect threads, she thought of her song far more than the flax. Thus, should our souls pursue, apart from toil, some high calm tune and prove our work better for the sweetness of our song.

FASHIONS BY MAY MANTON.

Our large Fashion Book—containing 92 pages illustrating over 700 of the season's latest styles, and devoting several pages to embroidery designs, will be sent to any address on receipt of ten cents.



No. 7993—Infant's shawl and hood combined, one size. In three lengths.

No. 8018—Infant's one-piece kimono, one size. Perforated for sacque length in scalloped or straight outline.

No. 7992—Girl's surplice dress, 4 to 8 years. With straight skirt that can be plaited or gathered, short or long sleeves, with or without shield.

No. 8002—Boy's suit, 2 to 6 years. With long or knee trousers, long or short sleeves.

No. 8024—Child's wrapper, 6 months, 1, 2 and 4 years. With long or short sleeves; 665 embroidery design.

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Josef Hofmann is now universally conceded by the foremost musical critics to be the greatest pianist in the world. Eight years ago this wonderful pianist joined the editorial staff of *The Ladies' Home Journal* to answer personally the questions of piano students. During this time he has answered thousands of questions. So excellent were these answers that they attracted the instant attention of piano-teachers who use them today in their classes. Two books have been made and published from these answers.

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THE CURTIS PUBLISHING COMPANY
INDEPENDENCE SQUARE
PHILADELPHIA, PENNSYLVANIA

Markets.

GRAINS AND SEEDS.

November 25, 1913.

Wheat.—Except for slight fluctuations the wheat trade has remained steady the past week. On Monday the bears endeavored to turn the market downward by publishing the report of a heavy increase in the Russian crop, by pointing out the large volume of wheat on passage and by noting a liberal increase in the world's exports. This information failed, however, to force prices lower, due to the unfavorable news from South America, where the Argentine crop promises to be small. Harvesting will soon begin in the northern districts of that country and for the coming few weeks the weather prevailing will be an important factor in the adjustment of wheat prices. While receipts at Winnipeg are large, exports have been of such volume as to maintain values on a firm basis. One year ago the price for No. 2 red wheat was \$1.07 per bu. Quotations for the past week are:

	No. 2	No. 1	Dec.	May.
Wednesday	96½	96½	96½	1.00½
Thursday	96½	96½	97	1.01½
Friday	96½	96½	97	1.01½
Saturday	96½	96½	96½	1.01½
Monday	96	96	96½	1.01½
Tuesday	96½	96½	96½	1.01½

Chicago, (Nov. 25).—No. 2 red wheat, 96½c; Dec., 87½c; May, 91½c.

Corn.—This market has remained steady throughout the past week. While the warm weather aided in securing corn still in the fields, and decreased the calls from feeders, as well as made deliveries easier, the position of the market is such as to hold prices firm against these bullish influences. Many sections that usually export this cereal will not have enough for home use this winter, and consequently will become importers. One year ago No. 3 corn was selling at 61c on the local market. Quotations for the past weeks are as follows:

	No. 2	No. 2	Yellow.
	Mixed.		
Wednesday	77½	78½	78½
Thursday	77½	78½	78½
Friday	77½	78½	78½
Saturday	77½	78½	78½
Monday	77½	78½	78½
Tuesday	77½	78½	78½

Chicago, (Nov. 25).—No. 2 corn, 74½c; Dec., 70½c; May, 70½c.

Oats.—Trade remains steady. Throughout the week prices have experienced no change. There is a fairly good demand for oats, which is partially due to the scarcity and high price of corn. One year ago the ruling price for standard oats was 35c per bu. Quotations for the week are as follows:

	Standard.	No. 3
	White.	
Wednesday	43	42½
Thursday	43	42½
Friday	43	42½
Saturday	43	42½
Monday	43	42½
Tuesday	43	42½

Chicago, (Nov. 25).—Standard oats, 40½c; Dec., 38c; May, 42c per bu.

Beans.—Notwithstanding the custom of marketing beans liberally at this season, farmers are holding back many bushels because of faith in higher prices in months to come. Immediate and November shipments are quoted at \$1.90; January at \$1.95 per bushel at country points. Chicago reports an easy trade at lower prices. Pea beans, hand-picked, choice, are quoted at \$2.15; common \$1.75; red kidneys, choice \$2.65; red \$2.25 per bu.

Rye.—This cereal rules a cent lower. No. 2 is quoted at 66c per bu.

Barley.—At Chicago barley is quoted at 52½c per bu., while Milwaukee quotes the malting grades at from 60 to 80c.

Cloverseed.—Excepting alsike, all values are higher with sentiment changing from day to day. Prime spot is quoted at Detroit at \$8.55 per bu.; December \$8.60; March \$8.65. Prime alsike is steady at \$10.50 per bu. At Toledo, December and March are quoted at \$8.70 and prime alsike at \$10.65.

Alfalfa Seed.—Market is nominal, with prime spot quoted at \$7.25 per bu.

Timothy Seed.—Market inactive at \$2.50 per bu. for prime spot.

FLOUR AND FEEDS.

Flour.—Jobbing lots in ¼ paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent, \$5.30; second, \$4.90; straight, \$4.50; spring patent, \$5.10; rye flour, \$4.60 per bbl.

Feed.—In 100-lb. sacks, jobbing lots: Bran, \$25; coarse middlings, \$27; fine middlings, \$27; cracked corn, \$31; coarse corn meal \$30; corn and oat chop \$26.50 per ton.

Hay.—Market unchanged. Carlots on the track at Detroit are: No. 1 timothy \$16.50@17; standard \$15.50@16; No. 2, \$14.50@15; light mixed \$15.50@16; No. 1 mixed \$13.50@14.

Chicago.—Offerings light and demand good with prices steady. Choice timothy quoted at \$18@19 per ton; No. 1, \$16.50@17.50; No. 2, \$15@16.

Straw.—Detroit.—Steady. Rye, \$8@9; wheat and oat straw, \$7@7.50 per ton. Chicago.—Quotable as follows: Rye \$8.50@9; oat \$6.50@7; wheat \$6@6.50.

DAIRY AND POULTRY PRODUCTS.

Butter.—There is a good demand at steady prices. Quotations are: Extra creamery 32c per lb; firsts 30c; dairy 23c; packing stock 20c per lb.

Elgin.—Market firm at 32c per lb. Chicago.—Market continues slow. Demand most active for fancy grades. Quo-

tations are: Extra creamery 32c; extra firsts 30½@31c; firsts 25@28½c; seconds 22½@23½c; ladles 22@22½c; packing stock 20½@21c per lb.

New York.—Market steady with prices about the same. Quotations rule as follows: Creamery extras 33@35c; firsts 28@32c; seconds 24½@25c; state dairy, finest 31@32c; good to prime 27@30c; common to fair 23@26c; packing 21@22c as to quality.

Eggs.—Market steady with prices unchanged. Good demand for fresh stock which was quoted at 37c per dozen, cases included.

Chicago.—Market is more quiet. There was a decidedly weaker feeling for refrigerator stock but a good demand for fresh stock. Quotations are: Miscellaneous lots, cases included, 28@33c, according to quality; do cases returned, 27½@32½c; ordinary firsts, 31@33c; firsts, 34@35c; refrigerator stock in light demand and offerings liberal at 26@26½c for April firsts.

New York.—There is a fine demand for good stock with prices 1c higher than last week. Quotations are: Fresh gathered extras 45@47c; extra firsts, 43@44c; firsts 41@42c; western gathered whites 40@53c.

Poultry.—Last week's unseasonable weather proved disastrous to both shippers and receivers of dressed poultry, prices slumping badly. However, the market has braced and good stock of all kinds is steady at values closely approaching those of a week ago. Quotations: Live.—Springs, 12½@13½c; hens, 11@12c; No. 2 hens 9@10c; old roosters 9@10c; turkeys 18@20c; geese 13@14c; ducks 14@15c. Quotations on dressed stock average 1@2c higher than those given above.

Chicago.—In all lines good stock is firm at quotations, which are about the same as last week. Low grade stuff hard to sell. Quotations on live are: Turkeys, good weight, 17c; others 12c; fowls, general run 10c; spring chickens 12½c; ducks 11@13c; geese 8@12½c; guinea hens \$5.50@7.50 per dozen.

Cheese.—Market steady with values unchanged. Wholesale lots, Michigan flats 15@15½c; New York flats, 17@17½c; brick cream, 17@17½c; limburger, 14½@15c.

Veal.—The margin between fancy and common calves is narrower, the former being quoted 1c lower. Quotations are: Fancy 12@12½c per lb; common 10@11c. Chicago.—Supplies consist chiefly of hold-over stuff. Demand light and prices lower. Quoted as follows: Good to choice 90@110 lbs., 13@13½c; fair to good 60@90 lbs., 11@12½c.

FRUITS AND VEGETABLES.

Apples.—An active demand keeps the trade firm at slightly advanced prices. Quotations: Snow \$4@4.50; Spy \$3.50@4.50; Greening \$3.50@4.50; King \$3.50@4 per bbl; No. 2, \$2.25@2.75 per bbl; bulk \$1.25@1.50 per cwt. At Chicago prices rule firm to higher under a good demand. Receipts are decreasing. Values now rule from \$2.75@5.50 per bbl. No. 1 Jonathan's selling best; Spies are \$2.75@4; Baldwin \$3.25@4.

Potatoes.—The warm weather stimulated a fairly liberal delivery of potatoes, causing an easier tone. Local prices are steady, however. Quotations are as follows: In bulk 60@65c per bu; in sacks 70@75c per bu. At Chicago the receipts of higher grades are small and trade is firm while poorer kinds are easier. Michigan stock is lower at 60@68c.

Cabbage.—Steady at last week's figures. Good quality quoted at \$2@2.25 per bbl. The demand is fair at Chicago with offerings liberal. Quotations range from \$1@1.25 per bbl, for white, and \$1.50@2.25 for red.

Onions.—Fair demand and trade with prices for native stock at \$2.25 per 100-lb. sack. The Chicago market is well supplied and somewhat slow with Michigan and Indiana stock quotable at \$1.25@1.40 per 65 lbs.

GRAND RAPIDS.

The city market is still open but there is very little doing. The egg market continues firm, with buying prices from farmers at 36@37c for best. Dairy butter, No. 1, is steady at 25c. Dressed hogs are worth 9½@10c. Live poultry prices at beginning of week were unchanged, fowls bringing 9@10c; roosters 7c; fat turkeys 16c; geese 8c; ducks 10. The hay market is unchanged at \$18@22. Grain prices at the mills follow: Wheat 91c; oats 40c; corn 77c; rye 58c; beans \$1.60@1.70.

THE LIVE STOCK MARKETS.

November 24, 1913.

Buffalo.

(Special Report of Dunning & Stevens, New York Central Stock Yards, East Buffalo, New York.)

With 215 loads of cattle on our market today and 16,000 in Chicago some cattle sold higher than last week, but that was because of the better quality and finish, in the main market was no higher. We sold a load of Ohio cattle for \$8.75 and they were the best seen here in a long time. At the close the market was cleaned up on native cattle, but there were several loads of Canada cattle unsold.

We quote: Best heavy corn-fed cattle, \$8.50@8.75; best shipping steers, \$8.25@8.50; fair to good weight steers, \$7.75@8; fair to good weight shipping steers, \$7.50@7.65; choice to fancy yearlings, \$8.50@9; best handy weight butcher steers \$7.75@8.25; common to fair, \$6.75@7; heavy fancy fat cows, \$6@6.75; choice to prime fat cows, \$5.55@6; good butcher cows, \$5.50@5.75; fair to good do, \$4.75@5.50; canners and cutters, \$3.50@3.75; heavy prime fancy heifers, \$7.25@7.50; medium to choice heifers, \$6@6.50; good to choice heifers, \$6.75@7; choice dehorn-

ed feeders, \$7@7.25; stockers weighing 800 to 850 lbs., \$6.50@6.75; best yearlings, stockers, \$6.35@6.75; fair to good, \$5.50@6; heavy bulls, \$6.75@7; butcher bulls, \$6.50@6.75; bologna bulls, \$5.50@6.25; extra milkers and springers, \$75@100; fair to good \$40@60.

Our receipts today were somewhat smaller than was generally looked for and the market higher on all grades of hogs and especially pigs and lights. This class advanced 25@50c, while yorkers and mixed sold 10@20c higher than Saturday. General sales 8c; yorkers \$7.75@7.90; pigs \$7.50; roughs \$7@7.25; stags \$6@6.50. The trade closed strong and the outlook quite good for the balance of the week.

The lamb market was active today; prices 25c higher than the close of last week. Best choice lambs selling from \$7.35@7.50; close strong. Sheep active, prices about 10c higher than the close of last week. Look for steady prices on lambs.

We quote: Choice lambs \$7.35@7.50; cull to fair \$5.30@7.25; yearlings \$5.25@6; bucks \$3@3.50; wethers, \$4.50@4.75; handy ewes \$4.15@4.25; heavy ewes \$4@4.10; cull sheep \$3@3.50; veals, choice to extra \$11.25@11.50; fair to good \$10@11; heavy calves \$5.50@8.

Chicago.

November 24, 1913.

Cattle. Hogs. Sheep. Receipts today 16,000 33,000 40,000 Same day last year 18,658 41,900 49,610 Receipts last week 58,777 178,837 114,932 Same week last year 70,311 164,855 184,362

Sixteen thousand head for a Monday looks pretty small for a cattle run, but the week is sacred to turkey and other poultry, and buyers are not taking hold especially well. Thursday, Thanksgiving Day, will be a close holiday in the stock yards, and no live stock will be sold. A few cattle sold a dime or more higher this morning, but others sold at no more than steady values. Hogs shot up 10@15c, and some sales looked even 20c higher. Hogs sold all the way from \$7.35@7.95. The hogs received last week averaged 209 lbs., comparing with 205 lbs. a week earlier, 224 lbs. one year ago, 211 lbs. two years ago, 223 lbs. three years ago and 224 lbs. four years ago. Sheep and lambs are active at steady prices.

Cattle receipts have been running so large in recent weeks that the offerings ran well ahead of existing trade wants, owners hurrying up shipments before winter weather sets in, and buyers were able to dictate terms very largely. Last week's decline of 15@35c left prices the lowest, on the whole, seen in a long period, with the bulk of the beef steers going at \$7.50@9, although Monday saw many sales at \$9.05@9.50. Prime yearlings sold Monday up to \$9.65 and on Wednesday as high as \$9.60, these selling much better than heavy beefs. Early sales of heavy steers were made in a small way at \$9.25@9.50, with late sales of the better class of weighty cattle at \$8.50@9.10, while the commoner light lots brought \$6.60@7.50. Fair and medium lots brought \$7.60@8.20 and good steers \$8.25 and over. For butcher lots of cows and heifers buyers paid \$4.65@8.25, with a few yearling heifers of superior quality taken at \$8.50@9, while cutters brought \$4.15@4.60, canners \$3.25@4.10 and bulls \$4.75@7.50. There was a good stocker and feeder trade only at times, despite the good break in prices, as many intending buyers were deterred from operating by the further break in beef steer values. Stockers sold at \$4.75@7.15, the higher priced lots being well-bred stock steers. Feeders carrying much weight brought \$6@7.50, for common to prime lots, with early sales up to \$7.65. Stock and feeding cows and heifers had a moderate sale at \$4.75@6.50. Calves found buyers at \$4.75@11 per 100 lbs., the top at the week's close being \$10. Seventy-five cars of Alberta range cattle arrived Wednesday, the largest run of Canadian cattle ever known in one day. Milch cows had a moderate sale at \$6@90 each, ordinary cows ruling lower. Until the rush to get cattle marketed is over there will not be a good outlook for sellers. Thus far heavy cattle have sold especially poorly.

Hogs met with a very good general demand last week, and although the aggregate receipts were liberal, starting off with a Monday run of 46,653 head, offerings were well absorbed. The wild fluctuations seen a few weeks ago, when packers were smashing prices, were lacking, and most of the week quotable changes were quite narrow, packers showing readiness to take the hogs at nearly steady values. Eastern shippers were not particularly large purchasers, but they took the better class of the hogs, making competition for these and holding them firm at times when maintaining prices for packing hogs was no easy matter. As usual, receipts ran largely to light hogs and pigs, and this caused such lots to sell at a large discount, with choice medium and heavy butcher lots bringing the highest figures invariably. Provisions, including lard and cured meats, continue to have a good consumption, while the fresh pork consumption is the largest ever known at this season of the year, enabling packers to reap generous profits on pigs and underweight hogs. After prime hogs sold up to \$8.10 on Thursday, there was a break, and the week's close saw sales at \$7.25@7.85, compared with \$7.40@8.15 a week earlier. Pigs closed at \$5@7 and 135 to 155-lb. lots at \$6.65@7.25. The week's receipts show good gains over the preceding week and a year ago.

Sheep and lambs have been coming to market in fast decreasing numbers, and the sharp break in prices of Monday last week, when the run was much above the average in volume, was followed later in the week by good advances in desirable flocks of sheep and lambs, there being a good general local and shipping demand. There are decidedly fewer feeders coming on the market now, and these are selling most of the time at advancing

CROP AND MARKET NOTES.

(Continued from page 501.)

amount of wheat sown and it looks good. No rye grown here. Normal amount of rough feed on hand except about half as much oat straw as usual. Corn only averaging 60 per cent of average crop, not much of this year's crop of oats shipped yet. No stock raised for market except a few hogs. Farmers marketing nothing at present. Some corn will move next month. Oats worth 36½c; corn 59c.

Perry Co., Nov. 11.—After three days' brisk wind from the northwest, the thermometer dropped to 22 degrees above zero on the 10th. Clear now with prospect of nice weather. Potatoes almost a failure, hardly worth digging. Importers are retailed at \$1 per bu. Farmers have little to sell, and some will have to buy feed this winter. Meadows fine, many being pastured. New seeding looks fine; wheat also looking good. Farmers have plenty of corn fodder. Short crop of timothy; will have to buy some corn. Turkeys not very plentiful, getting scarcer and higher in price each year. Plenty of geese and chickens, which are often shipped by carload to New York market. Quotations: Wheat 87c; oats 50c; corn 90c; potatoes \$1; sweet potatoes 50c bu; turnips 50c bu; eggs 35c; turkeys 17c; hens, chickens and geese 10c lb; honey, best 20c lb; hay \$20 ton; \$21 baled; coal \$2 per ton, retail.

Missouri.

Phelps Co., Nov. 15.—Potatoes were half a crop in Phelps county this season, only a few for market at 75c per bu., with the exception of one man who shipped three or four carloads to the St. Louis market early in the season, getting 85c per bu. Meadows are good; but little hay raised on account of the drought. There was considerable new seeding this fall, mostly timothy and clover. There was a big acreage of wheat and a great many farmers have fed for their own use, and some having little stock to feed have some hay for sale. There are a few who have corn and hay from their 1912 crop. Cattle are the principal stock being fed, but few hogs in the county. There are a few sheep and a greater number of goats. Goats are being sold for \$2@2.50 per head; sheep from 5½@6c; cattle \$7.85@8.50 per cwt. Horses and mules are bringing good prices. Cattle, hogs, sheep, horses and mules are about one-third short of last year in this county. At public sales dairy cattle have been selling from \$60@100. Wheat is 85c; corn 75c; potatoes retailing for \$1.

Mississippi Co., Nov. 14.—Wheat seeding most completed. There were no potatoes raised here this season. Farmers are putting up plenty of feed, and there will be a good surplus of grain and some stock and feed. Corn brings 65c; hay \$14.

Cass Co., Nov. 16.—Potato crop here is rather poor. Several cars are being shipped in. Meadows in good condition. Considerable wheat was sown and it has a good start. Farmers have but little winter feed. Many cars of oats, corn and hay being shipped in. Silage is fed extensively. A large amount of beef cattle being fed, also many hogs. Some horses and mules; also many cars of beef stuff were recently marketed. The top on steers is \$6.65; hogs \$8; grain market lower.

Kansas.

Trego Co., Nov. 15.—Wheat is looking fine although a little rain or snow is needed as we have had no rain since September and no snow at all yet this fall. Farmers are pasturing to save feed as many farmers will be short if we have much snow. Lots of feed in the country but it is being held for a high price. Corn is selling for 85c; potatoes 90c; apples \$1 @1.35 per bu; eggs 30c; butter 25c; cream 30c per lb.

Nemaha Co., Nov. 8.—Up till this time the weather has been clear and mild with only an occasional blustering wind from the northwest. Cattle are still grazing. Farmers in some favored localities are husking corn, which is yielding from 15 to 20 bushels per acre. Potatoes, corn, oats and cabbage are being shipped in. No hog cholera here at present, but some cattle are dying from what is called "cornstalk smudge." The good roads movement is strong here. Wheat is all sown, the early fields being pastured. Rye is also up and doing well. A great deal of fall plowing is being done. Public sales are numerous, but everything sells well. Cattle are high, but horses sell low because of a shortage of feed. Farmers are looking for a hard winter, and are saving every kind of fodder that may be used for feed in case of necessity. The wheat supply is low. Quotations are: Corn 79c; wheat 75c; oats 46c; fat cattle \$6.50@7.50; hogs \$7.20@7.40; hens 8½c; ducks 9c; cream 28c; eggs 28c.

Smith Co., Nov. 4.—Conditions here are very favorable despite extreme drought of the past summer. Farmers will be able to carry their stock through the winter in good shape. Pastures were revived by the late rains, and wheat has made an excellent growth. The last crop of alfalfa affords an abundance of pasture. Most of the farmers have enough straw, hay, fodder, silage and old corn to carry them over the winter. Some have wheat to sell, but corn will be held. There are many hogs in the field lots. The number of cattle fed will be much less than last year. Horse and mule buyers are paying good prices. Potatoes were about one-half a crop and are selling at 80c per bu. Wheat is quoted at 75c; corn 73c; eggs 25c; butter 18@25c; butter-fat 26c; turkeys 8@10c; hens 10c; springs 9c.

Nebraska.

Dodge Co., Nov. 12.—Potatoes were a short crop in Saunders and Dodge coun-

(Continued on page 499.)

THIS IS THE LAST 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.
November 27, 1913.

Receipts, 715. Canners steady, all other grades strong 15@25c higher.

We quote: Best steers and heifers, \$7.75@8.25; steers and heifers, 1000 to 1200, \$7@7.50; do 800 to 1000, \$6.75@7; do that are fat, 500 to 700, \$6@6.50; choice fat cows, \$6; good do, \$5@5.75; common cows, \$4@4.75; canners, \$3@3.85; choice heavy bulls, \$6@6.25; fair to good bolognas, bulls, \$5.50@5.75; stock bulls, \$4.75@5.25; choice feeding steers, 800 to 1000, \$6.75@7; fair do, 800 to 1000, \$6.25@6.50; choice stockers, 500 to 700, \$6.50@6.75; fair do, 500 to 700, \$5.75@6.25; stock heifers, \$5@6; milkers, large, young, medium age, \$75@100; common milkers, \$40@50.

Bishop, B. & H. sold Parker, W. & Co. 2 butchers av 905 at \$6.75, 35 Canadian butchers av 700 at \$6.34, butchers av 666 at \$6, 2 bulls av 1230 at \$6, 3 cows av 903 at \$3.75, 2 do av 1050 at \$5.75, 2 do av 1240 at \$5.50, 2 heifers av 675 at \$6, 2 cows av 900 at \$5, 2 canners av 905 at \$3.60; to Strong 2 stockers av 665 at \$6, 4 do av 660 at \$6.25, 4 cows av 987 at \$5; to Sullivan P. Co. 2 steers av 800 at \$6.25, 1 cow weighing 880 at \$5, 1 do weighing 770 at \$4, 2 do av 865 at \$4, 1 steer weighing 850 at \$6, 2 heifers av 475 at \$5; to Breitenbeck 17 cows av 975 at \$4.90; to Hirschleman 4 butchers av 654 at \$5.25, 3 cows av 1125 at \$5.75; to Rattkowsky 2 do av 1000 at \$5; to Mich. B. Co. 6 butchers av 880 at \$6, 1 cow weighing 900 at \$4, 1 do weighing 1040 at \$5.25, 7 do av 883 at \$5.10, 1 do weighing 850 at \$4, 2 do av 925 at \$5; to Sullivan P. Co. 2 do av 895 at \$5, 1 steer weighing 910 at \$6.75, 4 do av 525 at \$5.60, 5 butchers av 1002 at \$6.25; to Austin 18 stockers av 650 at \$6; to Bresnahan 11 do av 667 at \$6.20.

Haley & M. sold Mason B. Co. 5 butchers av 754 at \$6.60, 8 do av 871 at \$6.90; to Padgett 8 stockers av 756 at \$6.75; to Sullivan P. Co. 2 cows av 1125 at \$5.25, 1 do weighing 970 at \$4.50, 1 steer weighing 890 at \$5.50; to Applebaum 2 cows av 805 at \$4.65, 1 do weighing 970 at \$4.65; to Freeman 13 feeders av 777 at \$6.40; to Rattkowsky 4 heifers av 873 at \$5, 4 cows av 950 at \$4.75; to Sullivan P. Co. 2 cows av 905 at \$4, 1 do weighing 1000 at \$5.25; to Mason B. Co. 1 bull weighing 900 at \$6, 6 steers av 831 at \$6.90; to Thompson Bros. 6 cows av 1093 at \$5.50, 2 do av 1175 at \$4, 2 oxen av 1485 at \$6.80, 2 heifers av 710 at \$6.25, 1 bull weighing 1320 at \$6; to Parker, W. & Co. 9 butchers av 632 at \$6.10, 2 do av 595 at \$6.10; to Marx 1 cow weighing 1000 at \$4.75.

Roe Com. Co. sold Mason B. Co. 7 steers av 830 at \$6.75; to Sullivan P. Co. 5 do av 824 at \$6.65, 3 cows and bulls av 930 at \$5, 3 bulls av 570 at \$4.75, 2 cows av 995 at \$4; to Kamman B. Co. 4 do av 987 at \$5.50; to Strong 16 stockers av 571 at \$6; to Mich. B. Co. 18 do av 757 at \$6.10, 1 do weighing 700 at \$4, 1 do weighing 980 at \$4.60, 1 steer weighing 750 at \$6; to Applebaum 5 butchers av 354 at \$5.50; to Jameson 12 feeders av 833 at \$6.60; to Mich. B. Co. 4 cows av 937 at \$5.50, 10 butchers av 680 at \$6, 1 steer weighing 1040 at \$8.25, 1 cow weighing 1410 at \$7, 13 heifers av 788 at \$6.75, 11 butchers av 930 at \$6.65; to Thompson Bros. 3 cows av 1033 at \$5.25, 4 do av 880 at \$4; to Strong 5 stockers av 524 at \$6.10; to Sullivan P. Co. 1 bull weighing 1560 at \$6, 1 cow weighing 1220 at \$6, 1 do weighing 1280 at \$5.50; to Kull 2 bulls av 1275 at \$6.25, 5 steers av 924 at \$7.50, 3 do av 683 at \$6.25; to Parker, W. & Co. 1 cow weighing 900 at \$4.50, 7 butchers av 716 at \$6, 1 bull weighing 1370 at \$6, 6 steers av 941 at \$7.60, 5 cows av 806 at \$5.

Spicer & R. sold Podgett 3 feeders av 743 at \$6.85; to Sullivan P. Co. 3 cows av 1117 at \$5.50, 2 heifers av 665 at \$6.25, 1 bull weighing 1270 at \$6, 2 do av 865 at \$5.50, 1 do weighing 600 at \$5, 1 do weighing 820 at \$5, 1 do weighing 1210 at \$6, 4 cows av 1030 at \$5, 1 canner weighing 780 at \$2.50, 1 cow weighing 990 at \$5, 4 canners av 825 at \$3.75, 3 heifers av 1010 at \$6, 2 canners av 750 at \$3, 4 cows av 850 at \$4, 2 do av 850 at \$5, 3 steers av 833 at \$7, 5 do av 940 at \$6.50, 6 do av 750 at \$6.60, 1 do weighing 1030 at \$6.50, 1 do weighing 1070 at \$7.50; to Rattkowsky 12 cows av 991 at \$4.75.

Veal Calves.

Receipts, 416. Market steady. Best \$11; others, \$8@10.50.

Bishop, B. & H. sold Goose 10 av 142 at \$9.50, 5 av 180 at \$10.50; to Rattkowsky 3 av 130 at \$9.50; to Nagle P. Co. 20 av 165 at \$10.50, 19 av 130 at \$9.50; to Parker, W. & Co. 3 av 160 at \$10.25; to Sullivan P. Co. 1 weighing 200 at \$11.50, 2 av 160 at \$11; to Goose 3 av 175 at \$10.50, 2 av 100 at \$8, 2 av 180 at \$11; to Rattkowsky 2 av 135 at \$9.50, 1 weighing 160 at \$10; to D. Goose 5 av 180 at \$10.50, 10 av 142 at \$9.50; to J. Goose 7 av 120 at \$8.50, 4 av 125 at \$9; to Thompson Bros. 5 av 150 at \$10.50, 2 av 105 at \$8.50, 5 av 155 at \$10.50; to McGuire 25 av 150 at \$10.50; to Mich. B. Co. 6 av 155 at \$11; to Sullivan P. Co. 4 av 150 at \$11, 1 weighing 140 at \$9, 1 weighing 160 at \$8, 4 av 140 at \$10.50; to Parker, W. & Co. 116 av 175 at \$11; to Mich. B. Co. 3 av 180 at \$10.25; to Hammond, S. & Co. 4 av 150 at \$11, 11 av 140 at \$10.50; to Nagle P. Co. 4 av 140 at \$10, 3 av 107 at \$8.50, 4 av 120 at \$10.50, 8 av 160 at \$10.50, 1 weighing 220 at \$11, 6 av 155 at \$10.25; to Hammond, S. & Co. 6 av 165 at \$11, 11 av 150 at \$10, 14 av 160 at \$10.50; to

Mich. B. Co. 8 av 150 at \$10.

Spicer & R. sold Parker, W. & Co. 11 av 140 at \$10, 6 av 155 at \$10.25, 1 weighing 100 at \$7, 8 av 130 at \$10.50, 1 weighing 170 at \$10.50, 3 av 140 at \$10, 1 weighing 170 at \$11.

Haley & M. sold Parker, W. & Co. 2 av 160 at \$10, 3 av 165 at \$11, 4 av 155 at \$10.25; to Sullivan P. Co. 2 av 135 at \$10.50; to Rattkowsky 2 av 160 at \$9.50, 2 av 340 at \$6; to J. Rattkowsky 4 av 350 at \$5; to Mich. B. Co. 10 av 157 at \$11, 7 av 135 at \$10.75.

Roe Com. Co. sold Newton B. Co. 5 av 125 at \$10.

Sheep and Lambs.

Receipts 4992. Market steady at Wednesday's prices. Best lambs, \$7.25@7.50; fair to good do, \$6.75@7; light to common lambs, \$6@6.50; yearlings, \$5.50@6; fair to good sheep, \$4@4.25; culls and common, \$2.75@3.25.

Haley & M. sold Trumbull & H. 60 lambs av 75 at \$7.25, 20 do av 65 at \$7, 32 do av 70 at \$7.25, 23 do av 70 at \$7.25, 44 do av 68 at \$7.25; to Nagle P. Co. 28 sheep av 125 at \$4, 9 do av 100 at \$3.85, 13 do av 100 at \$4.15; to Klenck 25 do av 95 at \$4.25; to Newton B. Co. 40 lambs av 70 at \$5.50, 30 do av 65 at \$6.65, 29 sheep av 90 at \$3.75, 11 do av 100 at \$4; to Sullivan P. Co. 7 do av 80 at \$3.50, 29 lambs av 60 at \$6.75; to Trumbull & H. 60 do av 70 at \$7; to Nagle P. Co. 43 sheep av 110 at \$4.25, 31 do av 120 at \$3.75, 34 do av 130 at \$4.25, 29 lambs av 75 at \$7.40, 237 do av 75 at \$7.40, 36 do av 65 at \$6.50; to Mich. B. Co. 63 do av 55 at \$6.50.

Roe Com. Co. sold Mich. B. Co. 41 sheep av 115 at \$4; to Barlage 9 do av 80 at \$4, 3 lambs av 50 at \$6, 35 do av 55 at \$6.60, 26 lambs av 70 at \$7.15, 13 sheep av 125 at \$4.25.

Bishop, B. & H. sold Young 30 sheep av 80 at \$4.75, 50 lambs av 75 at \$7.35, 31 do av 55 at \$6.25; to Swift & Co. 149 do av 80 at \$7.50, 65 do av 75 at \$7.40, 6 do av 100 at \$7.25; to Levy 30 sheep av 135 at \$4.25, 20 do av 120 at \$4.25; to Klenck 27 do av 110 at \$4.15, 13 do av 100 at \$4; to Swift & Co. 67 lambs av 78 at \$6.85; to Mich. B. Co. 10 sheep av 79 at \$3, 56 lambs av 80 at \$7.35, 90 do av 60 at \$6.50, 11 do av 40 at \$5; to Nagle P. Co. 147 do av 75 at \$7, 34 sheep av 110 at \$4; to Sullivan P. Co. 14 lambs av 65 at \$6.50; to Nagle P. Co. 150 lambs av 78 at \$7.25, 74 do av 75 at \$7.30, 120 do av 73 at \$7.25, 10 sheep av 110 at \$4, 10 do av 100 at \$3.35, 25 do av 93 at \$3.50, 10 do av 120 at \$3.50; to Sullivan P. Co. 11 do av 115 at \$4.15, 27 lambs av 52 at \$6, 45 do av 55 at \$6, 47 sheep av 90 at \$3.15; to Hammond, S. & Co. 48 lambs av 75 at \$7.30; to Thompson Bros. 31 do av 73 at \$7.25, 31 sheep av 95 at \$3.50; to Nagle P. Co. 10 do av 124 at \$4.25, 15 lambs av 70 at \$7.25; to Levy 14 sheep av 125 at \$4.25; to Sullivan P. Co. 13 do av 100 at \$4.25.

Hogs.

Receipts, 8522. Market 5c lower than Wednesday; packers stopped dead at \$7.60 for tops.

Range of prices: Light to good butchers, \$7.60; pigs, \$7; mixed, \$7.55; heavy, \$7.55@7.60.

Roe Com. Co. sold Sullivan P. Co. 225 av 200 at \$7.60.

Haley & M. sold Hammond, S. & Co. 890 av 200 at \$7.60.

Spicer & R. sold same 315 av 180 at \$7.60.

Bishop, B. & H. sold Parker, W. & Co. 2500 av 195 at \$7.60, 510 av 180 at \$7.55, 512 av 170 at \$7.50.

Friday's Market.

November 20, 1913.

Cattle.

Receipts this week 1373; last week, 2,000; market steady.

We quote: Best steers and heifers, \$7.50@7.75; steers and heifers, 1000 to 1200, \$6.75@7; do 800 to 1000, \$6.25@6.75; do that are fat, 500 to 700, \$5.75@6.25; choice fat cows, \$5.75@6.25; good do, \$5@5.50; common cows, \$4@4.50; canners, \$3@3.75; choice heavy bulls, \$6@6.25; fair to good bolognas, bulls, \$5.50@5.75; stock bulls, \$4.75@5.25; choice feeding steers, 800 to 1000, \$6.75@7; fair do, 800 to 1000, \$6.25@6.50; choice stockers, 500 to 700, \$6.25@6.50; fair stockers, 500 to 700, \$5.75@6; stock heifers, \$5@5.75; milkers, large, young, medium age, \$75@100; common milkers, \$40@50.

Sheep and Lambs.

Receipts this week, 7208; last week, 14,105; market steady. Best lambs, \$6.75; fair to good lambs, \$6.25@6.50; light to common lambs, \$5@6; fair to good sheep \$3.75@4; culls and common, \$2.50@3.

Hogs.

Receipts this week, 11,130; last week, 13,101; market 10c lower than on Thursday. Range of prices: Light to good butchers, \$7.65@7.70; pigs, \$7@7.25; mixed \$7.60@7.70; heavy, \$7.60@7.70.

New Home in Baltimore for H. W. Johns-Manville Company.

In order to properly take care of the big increase in its volume of business, the Baltimore branch of the H. W. Johns-Manville Co., has been compelled to seek larger quarters and are about to occupy a new home at 207-213 East Saratoga street.

Late reports go to show that Canada has no great surplus of cattle to export to the United States and that most of such cattle are on the stocker order. It is mainly stock steers that have been coming across the international boundary line since the bars in the way of tariff duties were removed by our government, although considerable numbers of thin old cows on the hattrack order have been brought in at times by the packing concerns. According to official figures furnished by the Canadian government, Manitoba had on the first of July only 256,900 cattle other than dairy stock; Saskatchewan 358,000 and Alberta 306,100, these figures showing decreases of 10,230, and 115,300 and 642,300 respectively in the course of a single year. Since our new tariff was adopted there has been such a demand for Canadian beef cattle to bring to our markets that competition has raised prices materially.

CROP AND MARKET NOTES.

(Continued from page 498).

ties; been shipping in from western part of state; potatoes a good crop there. New seeding of wheat in good condition. Hay a good crop with us. Farmers have plenty of feed for their stock and a good surplus to sell. There are 2,000 head of sheep being fed within two miles of Fremont. A good many hogs raised here. Farmers all have from five to ten cows, sell cream to creameries. Butter-fat 28c; corn 64c; wheat 73c; oats 35c; butter 30c; eggs 30c; spring chickens 10c per lb; apples a good crop, sell from \$75c@\$1 per bu. Watermelons raised extensively; peas and sweet corn raised for canning purposes.

Hitchcock Co., Nov. 8.—There has been no rain for three weeks or more, so it is a little dry on top. The potato crop in this part of the state was nearly a failure. Several cars of potatoes, cabbage and apples have been shipped in. Every year these items are shipped in; as a rule they are not successfully grown here. Potatoes come from the northwestern part of the state, in the sand hills, and are selling from 75@90c per bu. A large acreage of wheat was sown and is good, but very little rye is sown here. Prairie hay and alfalfa are the only feeds raised outside the sorghum feeds which are greatly depended on. Most all have raised sufficient feed to take stock through the winter. Some have feed to sell but not many. Small grain is all sold, only what was held for spring seed. There are no cattle fed this year for market on account of the shortage of corn; corn shipped in is selling for 73c on track; very little raised. Hogs \$6.85; cattle \$4@6; cream 25c; eggs 25c per dozen.

Pierce Co., Nov. 9.—Weather is very good here for this time of the year. There have been frosts however, every night for the last ten days, and the leaves are entirely off the trees. What few potatoes there are, are all dug, and they are worth from 80c@\$1 on the local market. Meadows are in fine shape. Stock is in good condition with plenty of feed to carry them through the winter. Wheat and rye look good, where the soil has had enough moisture to sprout the grain. A few cattle, hogs and sheep are being fed.

Antelope Co., Nov. 9.—There are not many turkeys, but plenty of chickens here. The latter are being marketed quite liberally. Local prices are: Corn 60c; wheat 80c; oats 40c; butter 27c; butter-fat 28c; eggs 25c; hay \$10 per ton. Although this is a prairie county, there has been a considerable amount of timber set out during the past 30 years.

North Dakota.

Foster Co., Nov. 10.—The weather has been fine the past week, and farmers are busy plowing, running their engines day and night. The ground is now freezing. Potatoes were all dug before frosts came. The crop was small, but most farmers having a surplus are holding for higher prices. Cattle are selling at \$6@6.50; hogs \$7.50@8.50; milk cows \$85@105 per head. The production of butter and eggs is falling off so that there is none for market. Poultry is beginning to move for the Thanksgiving trade. There has been a hog cholera scare in this locality, and some animals have already died. The remainder of herds have been vaccinated.

We Want HAY & STRAW

We get the top price on consignments, make liberal advancements and prompt remittances.

Daniel McCaffrey's Sons Co.
PITTSBURG, PA.

Reference, Washington Trust Company, or any bank in city.

FARMERS—We are paying 5 cents above the Official Detroit Market for new-laid eggs shipped direct to us by express. Write us for information. It will pay you. American Butter & Cheese Co., 31-33 Griswold St., Detroit, Mich.

Will exchange—Fine brick three story opera house, stores underneath, in town two thousand, for farm or stock of general merchandise. What have you. Address, Greenough & Brainerd, Vassar, Michigan.

WANTED—Good farm worth \$20,000, in exchange for large ten-cent barn, livery, horses, auto. Only barn and livery in town. Good nine room living apartments in connection. \$10,000. Address, GREENOUGH & BRAINERD, Vassar, Michigan.

Farms and Farm Lands For Sale

BUY A FARM—In Montcalm or Kent County where it pays to farm. All sizes and prices. Come and see for yourself. MICHIGAN FARM HOME COMPANY, Greenville, Michigan.

We Have City Property—To exchange for good farm. STEELE BROS., 316 Free Press Bldg., Detroit, Mich.

Virginia Farms for Sale—Prices right. Terms reasonable. Soil fertile. Mild climate, best markets. We have farms from 5 acres to 500 acres. Write for our free illustrated Catalog. Southside Realty Co., Inc., Petersburg, Va.

Dispersion and Combination Sale!

Wellington, Ohio, Dec. 10; 11 a.m.

At which place the entire herds of H. H. & ORVILLE SOOY 75-HEAD-75 with other fine cattle will positively be sold.

Cows, heifers and heifer calves, of the best individuals and breeding I have ever had the pleasure of offering the public. In the sale will be a number of fine A.R.O. cows. Grand daughters of Bell Korndyke.

DEKOL 2nd, Mutual Paul.
King of the Pontiacs.
King Seels.
Heugerveld Dekol.

DeKOL 2nd, Butter Boy 3rd.
Paul Beets Dekol.
Pieterie Heugerveld Count Dekol.
Monk Lyons.

Cows and heifers bred to good sons of Pontiac Korndyke. Others to a young sire whose 8 near dams average 32.71 lb. A.R.O. Two grand daughters of King of the Pontiacs, one bred to son of Pontiac Korndyke. One to a 35-lb. sire. Two fine heifers bred to a 35-lb. son of Lord Heugerveld Dekol. A few bull calves and service bulls fit to head good herds.

A sale of clean unblemished tuberculin tested stock, that we can recommend to our friends and customers and know they will be pleased with their purchase.

The sale will be held right at Wellington, which is reached by Big 4 and Wheeling & Lake Erie R.R. and Cleveland Electric from Oberlin, Myria and Cleveland.

Terms cash, unless other arrangements are made before the sale.

H. H. & ORVILLE SOOY,
and FRANK P. SUTLIFF

FRANK P. SUTLIFF, Manager.
COL. C. E. BAYLEN, Auctioneer.



I'm Feeling Fine
Thank You

A nervous, discontented cow is always a poor milk producer because Nature is attempting to rebuild her wasting system instead of attending to the natural healthy functions of producing and re-producing.

A cow can be "off color" just as a human being can be—and like a human being, she needs the proper medicine to build up the sluggish organs. Kow-Kure is the standard remedy for such cow diseases as Abortion, Retained Afterbirth, Barrenness, Bunches, Milk Fever, Scouring, Red Water and Lost Appetite. Kow-Kure puts sick cows "on their feet"—makes profitable cows of backward ones.

Try KOW-KURE on your poor milkers. Most feed dealers and druggists sell it, in 50c and \$1.00 packages. Write for free copy of our book "Cow Diseases."

Dairy Association Co.
Lyndonville, Vt.

For Sale—Ideal Black Loam Stock Farm in South-12 miles from Toledo. Stone roads are completed within half mile of farm, 1 1/2 miles from Interurban car line. 124 acres, all tiled except 20 acres chopping. Large young orchard, all kinds of fruit. Close to small towns, good buildings with lightning rods, new barn 100x36 inside cement basement, water piped from wind mill to barn, 30 bbl. water tank, cow barn will station 28 head of cattle, hay mow, 6 horse stalls, silo 32x16, granary 60x36, corn crib and tool shed combined 52x22, good hen house, auto garage, nice 7-room house with cellar. A bargain at \$25, if sold at once will consider \$200 per acre. For particulars write LOOK BOX 96, BLISSFIELD, MICHIGAN.

FOR SALE—Fine one hundred acre farm located two and one-half miles from Ovid, Mich. Buildings in very good condition. Has running water and suitable for stock or crops. Can give possession at once. Close to H. F. Southworth, Agt., A. A. Ry., Mt. Pleasant, Mich.

300 Acres—Large two-story house, good one, 4 large barns, 40x50, 30x60, 24x44, other barn, tenement house, orchard. Owner dead, heirs must sell, been in use 120 years. This is a ten thousand dollar farm, will sell for \$5000, \$3500 cash, balance time. Hall's Farm Agency, Owego, Tioga Co., N. Y.

FARMS—608-acre dairy farm, 2 miles north of Ann Arbor, 480-acre stock farm, 4 miles from Lansing. Several smaller farms near Lansing. Address J. D. TOWAR, East Lansing, Mich.

Fertile Farms and unimproved lands in Delaware, diversified farming, live stock, delicious fruits and ideal homes. For information address, State Board of Agriculture, Dover, Delaware.

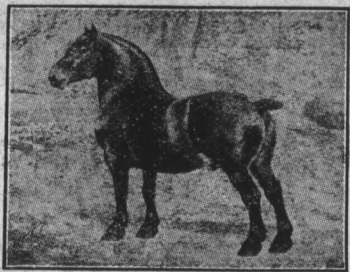
MICHIGAN FARMING LANDS
Near Saginaw and Bay City, in Gladwin and Midland Counties. Low prices: Easy terms: Clear title. Write for maps and particulars. STAFFELD BROTHERS, 15 Merrill Building, Saginaw, (W. S.), Michigan.

MICHIGAN FARMS and FARM LANDS
For sale or trade: reliable information furnished on any part of state. If you wish to buy, sell or trade, write us. J. D. BUTTERFIELD, 521 Hammond Bldg., Detroit.

2500 ACRES over hard wood land near Rose City, Mich., on D. & M. R.R., especially adapted for stock and fruit raising. Address, JACOB SCHWARTZ, Saginaw, Michigan.

2160-Acre Ranch—entirely enclosed with woven wire fence, fine soil, living stream of water, lots of speckled trout, sold \$100,000 worth of cattle from ranch last month. Hundred head yet to winter. BIG BARGAIN, \$25 per acre, will take another good farm in exchange for one-half value of this. GREENOUGH & BRAINERD, Vassar, Michigan.

McClure - Stevens Land Co.
Successors to A. J. Stevens & Co. Established 1883. Farm, Fruit and Stock Lands. We own 20,000 acres of choice unimproved lands in Gladwin and Clare counties. Sold on easy payments. Interest 6 percent. Write for information. Gladwin, Michigan.



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Hewo Stock Farm
Wabash, Indiana
More than a quarter century
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We have a fine lot of imported and American bred

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on hand and we can sell them for less money than any other importer. Write us your wants.

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The Economy Galvanized Steel Roof is securely nailed to rafters which adds strength to the silo. It is permanent—easy to put on. When connected with a grounded wire protects your silo from lightning. The Economy Roof fits silos of all constructions. Wood, cement, hollow tile, brick or steel. It's cheaper and more durable than wood. Write for illustrated folder. **ECONOMY STEEL PRODUCTS CO., 28 N. Third Street, DES MOINES, IOWA**

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THE FREELAND CORN CRIB
is absolute proof against rats, mice, birds and fire. Made of perforated galvanized sheet steel, is practically indestructible. Cures corn perfectly. Easy to erect. Write for illustrated catalog of sizes, prices and all details. **Pioneer Manufacturing Company, Middlebury, Indiana.**

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Herd, consisting of Trojan Erics, Blackbirds and Prides, only, is headed by Egerton W. the GRAND CHAMPION bull at the State, West Michigan and Bay City Fairs of 1912 and the sire of winners at these Fairs and at THE INTERNATIONAL, Chicago, of 1912. **WOODCOTE STOCK FARM, Ionia, Mich.**

GUERNSEYS—Reg. Tuberculin Tested. Windsor Farm, Watervliet, Mich. J. K. BLATCHFORD, Auditorium Tower, Chicago, Ill.

GUERNSEYS

Some choice bull calves by May Rose sires, out of dams now making good A. B. records. Prices reasonable. **St. Austell Farms, R. No. 3, Jackson, Mich.**

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The Greatest Dairy Breed
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Have for sale several fine young bulls out of cows with high official butter and milk records.

Send for circular.

3 FINE YEARLING BULLS!

1 Son of Sir Jolie Johanna, out of an 18th 3-year-old daughter of Sir May Hartog Posch.
2 Sons of Johanna DeColantha 5th and out of A. R. O. dams.
5 Bull Calves, by Johanna Concordia Champion, No. 60575. A copy of the 24th volume of the Holstein Friesian year book with each of these bulls.

Prices right to quick buyers.

L. E. CONNELL, Fayette, Ohio

Wanted 6 Registered Holstein Heifers

From 1 to 2 years old. Send pedigree with prices
C. E. WINTERS, Augusta, Mich.

"Top-Notch" Holsteins.

Choice bull calves from 6 to 10 mo. old, of fashionable breeding and from dams with official milk and butter records for sale at reasonable prices.
McPHERSON FARMS CO., Howell, Michigan.

A FEW CHOICE Holstein Friesian Bull Calves for Sale. A. R. O. Stock.
GREGORY & BORDEN, Howell, Michigan.

Farm Commerce.

Your Crops and Your Markets.

IN developing a successful fruit and truck growing business it is necessary that problems of selling receive more and more attention; these problems are growing more complex with the rapid increase in population and the development of large farms that specialize in the growth of standard market varieties. In the selection of suitable varieties the grower faces two problems, the selection of those that are best adapted to his soil and climate, and those which he can sell to the best advantage.

Plainly speaking, there are two kinds of fruit and truck farming, that which aims to produce quality fruit and truck for home use, and that which produces these crops for the general market. The ideals in these two types of farming are very unlike and the varieties and methods of selling which succeed for the one may prove a failure for the other.

The grower who has a small farm and depends upon the local or family trade has a different problem. His fruit and vegetables are desired because of their quality; and choice quality brings special prices. The man who grows similar products for the general market finds it better to specialize on standard varieties that can be produced at less cost when grown in large quantities. In this way his produce is sought by dealers who are combining produce from many growers in order to attract attention on the big city markets. Failure to study these two types of fruit and truck farming has in many instances turned possible success into failure. The man with a small farm who grows quality fruit and vegetables for a special market is more or less independent of the general trade. On the other hand, the man who grows standard crops for the open market allows the machinery of commerce to handle his produce and fix the prices. This branch of the business has developed marvelously during the past twenty years, but the special or quality market has been woefully neglected.

In selecting varieties of fruit and vegetables the grower is apt to think chiefly of the distant market and overlook the more profitable quality market near at hand. He is advised to grow and market his produce so that it will come into competition with that which is grown by men who are operating on a commercial scale. He visits some prosperous section where the marketing problems have been worked out on a large scale. Every tendency leads him to look only at the commercial side of the business. But it is many times worth while to turn around and investigate the problems close at hand.

Last winter while making investigations of marketing problems the writer visited one of the most famous apple growing regions in the country. After visiting several large cold storage plants in one of the small cities in the center of this fruit belt I walked across the canal and up and down the streets, looking into the stores and business places. I went into one of the leading groceries and said to the man: "Put me up a dozen of your choicest New York apples." "He looked sort of puzzled, and said: 'I am really ashamed of these apples, but I have some of the Oregon apples here in these boxes.'" "No," I said, "I came down here to investigate the apple question and I want a dozen of your best New York apples to carry home and show my friends." He put up two quarts of worm-eaten, ill-shapen apples and said: "My friend, I am ashamed to take your money." I crossed the street and saw another lot of gnarly, worm-eaten culls beside several boxes of choice Oregon apples.

Now I am not saying these things to find fault or to appear smart. I want to show that there is an opportunity for the small grower of quality fruits and vegetables to work up a good local market right under the feet of these big commercial growers who specialize upon varieties that are demanded by the distant markets. The very nature of their business prohibits them catering to local markets and growing finely flavored fruits and vegetables. Many delicate fruits and vegetables are not suited for storage and shipping purposes; however, there is always an active local demand for such

products, providing they can be put on the market in prime condition.

During the past few years there has been considerable discussion regarding the practice of growing apples on free stocks or on dwarfs. Each practice is profitable, but the grower cannot afford to grow common varieties on dwarf trees and compete in the general market. The choicest dessert apples can be profitably grown, perhaps, on dwarf trees provided they are put on the quality market. The standard varieties may be sold to the commercial dealer, but the choice, finely-flavored varieties that are grown on dwarf trees must be handled by the producer or his agents.

Many growers seek the advice of the experiment station or agricultural papers concerning the selection of suitable varieties. The scientist is not always in a position to give intelligent advice unless he knows the man and has a knowledge of the conditions under which he is working. He may advise correctly in a general way as to varieties that are adapted to his soil and climate, but adaption of varieties to local markets is one of the problems that must be worked out by the individual himself.

The success of the business depends upon the man and his methods of marketing. The first thing to do, therefore, is to choose the market one is to cater to. If he is to compete in the general market he must work on a larger base with standard varieties. The man with a small farm will generally do better in the growing of choice varieties, if he possesses sufficient skill, for the quality market. Too many farmers with a small area are aiming at the general market. It seems to me that the rapid development of fruit and vegetable growing on a commercial scale is going to make it increasingly difficult for the small growers to compete successfully in the production of standard varieties in the years to come and that they must develop sufficient skill to raise choicer varieties for the more restricted quality market.

In apples the demand for choice dessert fruit is almost wholly unsupplied. In fact, the commercial growers have been so busy meeting the increasing demands of the open markets and foreign trade that the quality markets have been woefully neglected.

A young fruit grower in western New York has tried out an experiment growing quality apples on dwarf trees. For the past two years the yields, though small, compared with those of commercial growers who have larger trees, are paying him handsome profits. His fruit, though less in bulk, is of exceedingly fine quality, and the higher prices received more than made up for the smaller yields. He has sold all of his choice fruit in a nearby city and has worked up a trade that would take more than twice the quantity he can supply. The following is a copy made from his sales book for a load of apples delivered last January:

12—Lady Winter Sweet.....	\$2.50	\$30.00
9—Seek-no-Further.....	2.00	18.00
18—Newton Pippins.....	2.50	45.00
11—Tompkins County Kings.....	2.00	22.00
10—Jonathan.....	3.00	30.00
60		\$145.00

This year he has tried out an experiment growing grapes. He purchased several thousand paper sacks and hired two girls to go through his vineyard and enclose the finest bunches of Niagara grapes in sacks. Before the fruit was fit to harvest he visited several big hotels and sold his entire crop of bagged fruit for five cents per bunch. Next year he is going to buy more sacks and bag all of his best fruit. In this way he can obtain from 100 to 200 per cent more than would be the case if he put his fruit on the open market.

The same opportunities exist in the growing of choice peaches, pears, cherries and plums, and to a lesser extent with bush fruits. There is seldom enough quality to meet the demand of the family hotel trade, for even when the open market is glutted, there are still people looking for a better grade for dessert use and for canning. All of these observations are given to indicate that there is an opportunity for the small farmer who

will work up a quality market; and that he should have this idea clearly in mind before he chooses his varieties.

In the production of vegetables the commercial grower cannot compete successfully in the quality market any more than the small grower can compete with him in the general market. He must raise tough, hardy vegetables that will stand rough handling and keep for weeks when put into cold storage plants. The small grower who depends upon quality markets will find it profitable to grow the early varieties and those that excel in quality and flavor. This principle is well illustrated in the market for glass-house fruits and vegetables. People often wonder that there should be a sale for forced tomatoes and strawberries after southern grown products are on the market; but the fact is that one does not compete with the other. These products do not go into the same channels of trade. The man who grows choice glass-house products does not have to compete in the same market with the grower of field products. He supplies the more restricted quality market.

It requires a lot of study and patience to work out methods of reaching the best class of customers, but once the trade is built up it is easy to hold and will come to the man who has the right kind of produce demanded at the right time of the year. In a future article I shall discuss a few of the methods of selling practiced by small growers who are catering to this quality market.

New York. W. MILTON KELLY.

JACKSON CITY MARKET.

THE city of Jackson, an important marketing center for a large and fertile area, including Jackson and adjoining counties, now has a retail market in successful operation which promises to put a dent in the high cost of living. The council secured centrally located property on Washington street, known as the Parish feed barns, and the market was opened a few weeks ago, somewhat sooner than was intended and before the buildings and grounds could be put in proper shape. There was no officer on hand, yet there was good order. Farmers began to arrive at five o'clock but found none there to buy. Even at seven o'clock there was no rush, most of the business being done between eight and ten a. m. The attendance of both buyers and sellers far exceeded the expectations of the committee in charge. City housewives enjoyed the novelty of the early morning buying, and they appreciated the freshness of the vegetables and fruit direct from the farm. Most articles were sold for less money than the grocery stores and hucksters demand. For example, dairy butter sold for 30 cents a pound, or about four cents less than the grocer asks. Potatoes sold for \$1 per bushel, or about the same as the store price. Cabbage brought five cents a head, against the store price of eight and ten cents. Farmers with eggs made quick sales at 30 cents.

Truck gardeners who make that a business usually have their stuff sold by telephone before they leave home, but the market is especially helpful to farmers who drive long distances and often spend half a day or longer driving about the city to dispose of their produce. The market opens at four a. m. and closes at ten a. m. each week day and is free to all. Hotel and boarding house people appreciate the market and there seems to be general satisfaction among producers and consumers. The market is opening rather late in the season, since much of the fruit and other stuff is out for this year, but a good start has been made and when well advertised the attendance will grow right along.

John Harrison, a Jackson county farmer living eight miles from the city, who has been peddling vegetables, fruit, etc., in Jackson for the past 35 years, is sure that the public market if properly conducted will be a great boon to all who will take advantage of it. He says: "The way it is now anybody outside of the short distance telephone has no show on earth to sell his produce, either to private citizens or to stores, on equal terms with people living near town. Nearly half, or perhaps more, produce is either contracted for or sold over the telephone. A man living three miles out tells me his stuff is sold and he always gets home by half past eight mornings. How is it with the man living eight to 15 miles from the city? He cannot telephone without paying tolls and if he has only one team he cannot go to market more than two or three times a week. No outsider can compete in selling his stuff at the stores

with those who go to town every day. I have traveled all the way down East Main street to Cooper and have not sold two bushels, and there are others. What is the consequence? We are driven to peddling and we don't get a bit more for our stuff than do those who come every day and sell to the stores. If business is good I get home at two p. m., and if dull I am lucky to get home by seven or eight o'clock. For my part, I hail the market movement with delight. There should be rules and regulations and a place where we can feed and water our horses."

Kent Co.

A. GRIFFIN.

CAUTION ABOUT SAMPLING MILK AND CREAM.

We should not allow our own mistake to be charged against the cream or milk buyer. It is quite wrong. But this occasionally happens where the uninformed take samples of milk or cream to be tested. They are not careful to have the milk or cream stirred thoroughly so that the mass is consistent throughout. However, any ordinary person can take a faithful sample by following simple rules: The milk or cream should be poured from one pail or can to another and back again several times, after which the sample for testing should be taken immediately, i. e., before the cream has had a chance to rise to the top. A sample taken in this manner will be a true guide to the amount of butter-fat in the milk or cream tested.

A few farmers do their own testing for butter-fat and most farmers could learn how to do it but it takes time and makes some trouble. To overcome these obstacles the Michigan Farmer offers to test samples of milk or cream free for subscribers that they may know the amount of butter-fat in these products, either for the purpose of weeding out unprofitable cows or of seeing that the milk or cream buyers are giving proper returns. To avail yourself of this service take a sample as above directed, put it in a four-ounce wide-mouthed bottle which should be enclosed in a mailing case, and send by parcel post to Michigan Farmer Laboratories, 674 Woodward Avenue, Detroit. We can furnish a bottle and mailing case for 10c in stamps. Send orders for these to the Michigan Farmer, Detroit.

NOTICE.

Any subscriber desiring to sell butter, poultry, eggs, apples, vegetables, honey, and other products direct to consumers, should send his name and address, and a list of the things he has for sale, to the Farm Commerce Department, Michigan Farmer, Detroit.

Crop and Market Notes.

Michigan.

Mecosta Co., Nov. 18.—November has been as a whole a very nice month to date. Cattle still on pasture. Seeding that got a good start is looking good. Meadows are all in good shape for winter. Wheat is not grown here to any extent; rye is looking good. There is sufficient feed except perhaps hay, for home consumption. Some corn for sale. Potatoes were the best crop they have been in a number of years, some farmers marketing nearly all their crop. The price ranged from 50¢@60¢, the farmers preferring not to speculate too much at these prices. Not much stock being fed.

Branch Co., Nov. 19.—Much corn to husk yet. Has been considerable bad weather, this causing much delay. Corn is of good quality but many pieces light owing to drouth. Potatoes about all secured but yield is light and they are selling at 60¢. Cloverseed was a good crop and is now selling at \$10@10.50. Cabbage crop light and heads very small. Hardly any apples and poor quality generally. Butter selling at 27¢; eggs 32¢.

Gratiot Co., Nov. 13.—Potato crop was good and for the most part the surplus is held for higher prices. They bring 50¢ on the market. Meadows are in good condition as are new seedings. Early sown wheat and rye have a good top for winter protection. Late sown is still very light. The acreage is about 80 per cent for wheat; 70 per cent for rye. The seasons product of both grains, thought light, is largely in the farmers' hands. Beans about the only grain being marketed. They are \$1.70 per bu; eggs and butter 26¢.

Lapeer Co., Nov. 19.—Although the potato crop is lighter than it was a year ago it still is a normal crop for the county. The market price is around 50¢ per bu. There is a fair amount of the surplus in farmers' hands. Meadows, new seeding, wheat and rye are all looking well. About 70 per cent of the feed on hand will be required for home consumption. Surplus grain about all sold. Many hogs are being fed, but the number of cattle in feed lots is small. Besides potatoes, beans and rye are being marketed, the price being for beans, \$1.70, and for rye 61¢ per bu. Cloverseed is yielding about a bushel per acre. As yet but little corn is husked.

Maine.

Penobscot Co., Nov. 13.—To date very little if any fall work has been accomplished owing to the extreme wet weather for the last six weeks. It is reported that in some sections of the state many fields of potatoes remain in the ground from the fact that the land was so wet it was impossible to dig them. There has been several cold nights, freezing the ground to a depth of several inches. It is estimated that the loss on potatoes which rotted and froze in the ground will reach upwards of \$10,000. The average potato yield in the state for 1913 was 220 bushels, compared with 198 bushels in 1912. The present price paid for potatoes is 52¢. Eggs 40¢. Most of the cattle, especially young stock, have been housed for the winter. Fall feed in pastures was very good owing to so much wet weather.

New York.

Niagara Co.—Potatoes have turned out better than was expected, although they are only half a crop. The late planted did the best. They are selling for 75¢@90¢ a bushel. The meadows are in excellent shape owing to the amount of rainfall this autumn. Wheat is standing fine, particularly the late sowing. There is some fly in the early sowing. Rye in this section is only sown to plow under. As this is distinctly a fruit section all the feed the farmer raises is used for his own consumption and then tons bought. Hay is the only exception. Quite a little of that is baled and sold at \$10@15 a ton at present. Cabbage is scarce and selling at from \$15@18. Price is falling and farmers are holding it as the future looks good. Beans are only one-third of a crop and some few farmers have half a crop; they are \$2 per bushel. The late sowings also turned out better than the early. There is but little stock raised here. Cows are high, from \$75@150. A lot of stunted stock has been shipped from Canada to the Buffalo yards and they are trying to dispose of it here. It is doubtful as to its success. Few sheep are raised here. Sucking pigs bring \$5 a pair.

Pennsylvania.

Crawford Co., Nov. 19.—We had a snow storm which began the 9th and lasted until the 12th. Snow very deep in some places drifted from 10 to 15 feet. Did not cause any serious damage. It soon melted, leaving the roads in very bad condition. Potato crop not up to average. New seeding doing fine. Farmers are well supplied for winter. Corn an average crop. Wheat and rye looks fairly well. Butter 38¢; eggs 45¢; beef and pork are coming down.

Lancaster Co., Nov. 12.—Potatoes were an average yield, while the quality was above normal. Prices range around 80¢ per bu. Cloverseed is yielding well, while new seeding is nicely started. Wheat was a good crop, but there is little rye raised in this section. Farmers have a large amount of feed on hand for home consumption. The corn crop was good. Only a small portion of this crop is put into silos, but the amount is increasing from year to year. A fair number of cattle being fed. The section is devoted chiefly to dairying. It is difficult to find feeder steers. Turkeys are scarce, while chickens are plentiful and of good quality. Farmers are marketing wheat at 90¢ per bu; hay \$18 per ton baled; butter 36¢; lard 12¢; eggs 42¢.

Ohio.

Madison Co., Nov. 19.—The very stormy weather the first week of November is causing heavy drafts on feed. Very little hay and rough feed for sale. However, there is plenty for home consumption. The new seeding of wheat and rye looks excellent. Farmers are now marketing corn at 60¢ per bu. The surplus of this crop will possibly all be marketed by the holidays, as the crop is very light. Nearly all farmers are buying potatoes, the crop was nearly a failure. Very little stock being fed for market, some few cattle, but not like in former years. Buyers are looking up poultry for the Thanksgiving trade, especially turkeys, and are bidding 18¢@19¢ per lb. They are very scarce. Good draft horses are bringing good prices. Wheat 90¢; corn 60¢; oats 37¢; rye 65¢; potatoes \$1; eggs 30¢; butter 32¢.

Hancock Co., Nov. 17.—Potato crop is about one-fourth of average yield. Wheat and rye in fine condition. Meadows look good for a heavy grass crop. Corn about one-half husked and a good yield. Many hogs rushed to market in poor condition on account of cholera. Prices from 7¢@8¢. Much hay sold from \$10@12 per ton. Lambs sold at 6¢; cattle 7¢. Heavy snow and rainy weather for nearly a week make fields wet.

Indiana.

Jay Co., Nov. 20.—Another week of very bad weather, snow and rain making it impossible for farmers to do any corn husking. There is much corn yet in the field; one-fourth of crop is cribbed; quality good. Some farmers are shredding when weather permits. This week, Nov. 20, is turkey week but most raisers experienced a poor season with their fowl. Price will be 17¢ and the supply small. Eggs 32¢; chickens 10¢; ducks 9¢; geese 9¢; feathers 70¢. The hay press men are busy but the price isn't up enough to induce a heavy market.

Illinois.

Champaign Co., Nov. 15.—On account of extremely dry summer the potato crop was a complete failure, farmers not raising any at all. All potatoes were shipped in from Michigan, Wisconsin and Minnesota. The fall rains have helped meadows considerable and are about in normal condition now. No new seeding for meadows. It is customary now to seed clover in spring for meadow one year and also as fertilizer to build land. A normal

(Continued on page 498).

AYRSHIRES—One of the foremost dairy breeds. Bull calves for sale. Write for description. Michigan School of the Deaf, Flint, Mich.

Registered Holsteins—Several nice bulls from 2 to 4 months old. Excellent type and breeding. \$50 to \$75 delivered. Write for one bargain. Better write today. HOBART W. FAY, Mason, Mich.

Holsteins—Two grade heifers perfectly marked, due to freshen in January for \$75 each. Registered bull calves priced to sell. B. R. Kasey, Akron, Mich.

KORN-EL STOCK FARM offers a Registered Holstein Bull 14 months old for \$100. E. R. CORNELL, Howell, Mich.

Magnificent Holstein Bull Calf For Sale—Two months old. By 25 lb. butter bull; dam, the A. B. O. Cow Houwte P. DeKol Albino. None finer. Seven-eighths white. Yellow skin. Only \$75. ROUGEMONT FARMS, Detroit, Michigan.

2 CHOICE HOLSTEIN BULL CALVES—By a producing Son of Pontiac Butter Boy whose dam Belle of Traverse has a record of 30 11 lbs. butter in 7 days. Fine individuals. Priced for quick sale. Address, HILLCREST FARM, Kalamazoo, Mich.

FOR SALE—3 Registered Holstein Heifer Calves. Write for description and prices. Coleman & Whipple, R. 5, Mason, Mich.

Buy Jerseys

Dollar for dollar invested, the Jersey will earn back the amount paid for her quicker than other breeds because her product brings a higher price per quart or per pound. For the home she is unsurpassed, and her low cost of keep makes her most desirable. Write now for Jersey facts. No charge.

AMERICAN JERSEY CATTLE CLUB
324 W. 23d St., New York

Maple Lane Register of Merit Herd—Offers register of tuberculin tested Jersey Cattle of all ages for sale. IRVIN FOX, Prop., Allegan, Michigan.

BUTTER BRED JERSEY BULLS FOR SALE. CRYSTAL SPRING STOCK FARM, Silver Creek, Allegan County, Michigan.

JERSEYS—Bulls calves bred for production. Also cows and heifers. Brookwater Farm, R. F. D. No. 7, Ann Arbor, Mich.

Lillie Farmstead Jerseys (Tuberculin tested. Guaranteed free from Tuberculosis.) Several good bulls and bull calves out of good dairy cows for sale. No females for sale at present. Satisfaction guaranteed. COLON C. LILLIE, Coopersville, Mich.

Dairy Shorthorn Bull For Sale—Calves Mar. 10th. Red. A sure breeder of extra good calves. Always been kind. W. W. Knapp, Watervliet, Mich., R. F. D. 4.

DAIRY BRED SHORTHORNS—Bates bred bull 7-mo. old for sale. Price \$100. J. E. HUMMEL, Mason, Michigan.

9 Shorthorns—Bulls from 8 to 12 months old. Best of breeding. Write for pedigrees. W. W. KNAPP, Howell, Mich.

FOR SALE—3 Shorthorn bulls. White two year old roan, yearling and red calf. E. J. FRANK, Reading, Michigan.

FOR SALE—6 Shorthorn Bulls, 7 to 12 mos., sired by grandson of Whitehall Sultan, also choice females. W. B. McQuillan, Howell or Ohlson, Mich.

SHEEP.

Leicesters—Yearling and ram lambs from Champion flock of Thumb of Mich. Also select Berkshire swine. Elmhurst Stock Farm, Almont, Mich.

OXFORD RAMS AND EWES FOR SALE at farmers prices. Address B. F. Miller or Geo. L. Spillane, Flint, Mich.

Three-Year-Old OXFORD and SHROPSHIRE Rams For sale cheap. Parkhurst Bros., Reed City, Mich.

IT PAYS TO BUY PURE BRED SHEEP OF PARSONS. The sheep man of the east. Shropshires, Rambouillet Polled Daines and Parsons Oxfords. R. 1, Grand Lodge, Mich.

Reg. Rambouillet Sheep, Pure Bred Poland China HOGS and PERCHERON HORSES. 2 1/2 miles E. Morrice, on G. T. R. and M. U. R. J. Q. A. COOK.

SHROPSHIRE Rams. Registered. Sired by Imp. Minton ram. Quality for grade or registered stock. Also some young ones. Prices right. WILLIS S. MEADE, Lapeer, Michigan.

INGLESIDE FARM—Offers recorded SHROPSHIREs, ewes bred to choice rams for \$15.00 per head. HERBERT E. POWELL, Ionia, Michigan.

Twelve bred Two-year-old Shropshire Ewes for sale W. E. MORRISH, Flushing, Michigan.

SHROPSHIREs—A few choice rams priced right for immediate shipment. C. J. THOMPSON, Rockford, Michigan.

SHROPSHIRE RAMS AND EWES FOR SALE. DAN BOOHER, R. 1, Marion, Michigan.

HOGS.

Durocs & Victorias—A Desirable Bunch of Sows of M. T. Story, R. R. 48 Lowell, Mich. City Phone 55.

TWO YOUNG BOARS left that are ready for service at \$25 each to close them out. A. A. PATTULLO, Deckerville, Michigan.

BERKSHIRES—Choice spring boars and gilts. Priced to move quick. Farmers stock. ELMHURST STOCK FARM, Almont, Mich.

BERKSHIRES—Spring pigs, either sex, choicest breeding, also fall gilts. T. V. HICKS, Route 11, Battle Creek, Mich.

BURGESS'S BERKSHIRES, MASTERPIECE STRAIN THE LONG SQUARE KIND

2 Handsome yearling boars, 3 Splendid fall gilts, 4 Spring pigs. Papers and pedigrees furnished. No cholera ever on the farm. Prices Reasonable. W. O. HULBERT, Mgr. R. 4, Big Rapids, Mich.

O. I. C. SWINE—Bred gilts all sold, have a No. of Spring pigs on hand. Will book orders for Sept. pigs, get my price on pairs and trice not asking. A. J. GORDON R. No. 2, Dor, Mich.

Chester Whites—Spring and summer pigs, write us your wants. Price and quality right. Meadow View Stock Farm, R. F. D. No. 5, Holland, Mich.

Improved Chesters—I have a few choice young breeders of April farrow, either sex. Twenty years a breeder. W. O. Wilson, Okemos, Mich.

O. I. C.'s—Taking Orders for Sept. Pigs, pairs and trice, for Spring farrow. FRED NICKEL R. No. 1, Monroe, Michigan.

O. I. C.'s—Boars ready for service. Aug. pigs, all of right type. I pay express charges. GEO. P. ANDREWS, Dansville, Ingham Co., Mich.

WRITE US Your Wants For Reg. Chester White Swine, Holstein Bulls, Shropshire Sheep, Lamb Rams. Sept. pigs now ready for shipment. RAY B. FARHAM, Branson, Michigan.

O. I. C.—Spring boars all sold. Have a fine lot of spring gilts. Sept. pigs, ready to ship, not akin. Lengthy Prince No. 38161, head of herd. (Will weigh 1/2 ton when mature) A. Newman, R. 1, Marlette, Mich.

O. I. C.—Spring Boars all sold. Fall pigs ready to ship, also a few choice red polled heifers. JOHN BERNER & SON, Grand Lodge, Mich.

THIS

O. I. C.

SOW WEIGHED 932 LBS.

AT 23 MONTHS OLD

IONIA GIRL

I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan. "How to Make Money from Hogs." C. S. BENJAMIN, R. No. 10, Portland, Mich.

Duroc Jersey Boars For Sale, of the large growthy type, also 2 Reg. Percheron Stallions 1-yr.-old. M. A. BRAY, Okemos, Mich.

DUROCS—7 boars, spring farrow. Fall pigs, either sex. Prices reasonable. S. O. STAHLMAN, CHERRY LAWN FARM, R. 2, Shepherd, Michigan.

Fancy bred Duroc Jerseys—Boars & Gilts of spring & summer farrow. Good individuals at reasonable prices. John McNicoll, Station A, R. 4, Bay City, Mich.

DUROC JERSEYS—Spring boars of the big type, a few from cherry King, the 1912 International champion, at prices that will sell them. W. C. Taylor, Milan, Mich.

DUROCS—36 High Class immunized boars ready for service. Special prices for 30 days. Write or come and see. J. C. BARNEY, Coldwater, Mich.

BIG TYPE DUROCS—March and April Boars, ready for service. Pairs not akin. Also Shropshire Hams for sale. F. J. DRODT, R. No. 1, Monroe, Mich.

Duroc Jerseys—10 Spring Boars Ready to Ship. CAREY U. EDMONDS, Hastings, Michigan.

DUROCS, Good Enough to Ship Without the Money. KOPE KON FARM, Kinderhook, Michigan.

Duroc-Jerseys—Spring boars from prize-winning strains. Brood sows all ages. Brookwater Farm, R. F. D. No. 7, Ann Arbor, Mich.

POLAND CHINAS—Both Western and Home Bred. Either sex, all ages. Prices right. W. J. HAGELSHAW, Augusta, Mich.

Poland Chinas and Single Comb White Leghorns. B. M. WING & SON, Sheridan, Michigan.

POLAND CHINAS

The Large Prolific Kind

We have a nice lot of **SPRING BOARS**

At Farmers' Prices.

ALLEN BROS

Paw Paw, - - Michigan.

POLAND CHINA—Spring, Summer and Fall pigs, from large prolific sows, litters up to 16. Special prices on boars. ROBERT NEVE, Pierson, Mich.

BUTLER'S BIG BONE Prolific Poland Chinas, the kind that keep right on growing after you get them. Big boars ready for service. Sows bred for spring farrow, fall pigs. All at farmers' prices. They don't breed them any better. A breeder for over 20 years. J. C. BUTLER, Portland, Mich.

P. C. MARCH AND APRIL PIGS—The long bodied kind. Guaranteed to please. R. W. MILLS, Salline, Michigan.

FOR SALE—Poland China Boars, March and April farrow. Prices right. G. W. HOLTON, R. No. 11, Kalamazoo, Mich.

POLAND CHINAS—Choice lot of spring pigs, either sex. Prices right. L. W. BARNES & SON, Byron, Shiawassee Co., Mich.

BIG TYPE P. C.—Boars and Sows of best breeding. Extra large individuals. A. A. WOOD & SON, Salline, Michigan.

POLAND CHINAS—Either sex, all ages. Something good at a low price. F. D. LONG, R. No. 8, Grand Rapids, Michigan.

Large Type P. C. Largest in Mich. Boars all sold. L. Am looking orders for Brod Gilts. Come and see Biz Desmoline, largest Boar in U. S. of age weighs 85 lbs. at 19 months. Expenses paid if not satisfied. Free Livery from Parma. W. E. Livingston, Parma, Mich.

Large Yorkshires—Pigs farrowed in August from prize winning stock, for sale. JONES & LUTZ, Oak Grove, Michigan.

IMPROVED LARGE YORKSHIRES—Sows and gilts bred for September and October farrow. Service boars. Pigs all ages. Breeding and prices upon application. W. C. COOK, R. 42, Ada, Michigan.

350 BIG TYPE MULE FOOT HOGS—All ages for sale. Prolific and hardy. Best bred for Michigan. Also Ponies. J. DUNLAP, Box M, Williamsport, Ohio.

MULEFOOT HOGS FOR SALE. Both Sexes, all ages. C. F. BACON, Milan, Michigan.

Mule Foot Hogs—All ages for sale. Big growthy, prolific, profitable, healthy. Write for what you want. G. C. KREGLOW, Ada, Ohio.

FOR SALE YORKSHIRES—Boar pigs. Aug. farrowed, from large litters. MEADOWLAND FARM, Waterman & Waterman, Ann Arbor, Mich.

YORKSHIRE SWINE—Young boars ready for service. Also spring farrowed gilts and Aug farrowed pigs for sale. Pairs not akin. GEO. S. MCWULLEN, Grand Lodge, Mich.

YORKSHIRE SWINE—A few choice boars left. Special prices for quick sale. OSTRANDER BROS., Morley, Mich.

Yorkshire Boars—At farmers prices, short nosed, big boned fellows, farrowed April 21, weight 225 lbs. Fall pigs, send for photos. Chas. Metz, Ewart, Mich.

Lillie Farmstead Yorkshires—Spring gilts, splendid ones. Fall pigs, either sex. Gilts bred for Spring farrow. COLON C. LILLIE Coopersville, Michigan.

Practical Science.

OYSTERS AS FOOD.

BY FLOYD W. ROBISON.

The oyster is one of the non-vegetable products which has undoubtedly figured materially as a factor in the high cost of living among the American people. But it is considered a very great delicacy among a great many people and we have purposed giving a little data on this very important food adjunct at this season of the year.

As compared with other animal food products the oyster furnishes the least food material per dollar of any which we have studied. At the prevailing price of 50 cents per quart for solid pack oysters there is no comparison between their food value and the food value of eggs at 40 cents per dozen, and eggs at 40 cents per dozen produce nowhere near the food value that sirloin steak does at 25 cents per pound. Likewise, sirloin steak at 25 cents per pound is probably one-third more expensive than cheese at 20 cents per pound, butter at 35 cents per pound or milk at 10 cents per quart. It is apparent therefore, that, considered from a standpoint of food units contributed, there is little use in giving consideration to oysters. But, as is common on the American table, there are a great many products which contribute little value and for which an exceedingly high price is tolerated. What are decided luxuries to many other people are considered necessities by the American people, and even among the more poorly paid Americans.

The Adulteration of Oysters.

It would seem that with a product which has so little food value as oysters have they might be presented to the consumer without any further reduction in value, but it is only within the last two or three years that such a product as solid-pack oysters has become generally familiar to consumers.

A very common form of adulteration of oysters has been the addition of water. In fact, so much has this been practiced that in certain localities the fact that oysters when grown are unaccompanied by such a large excess of water as that found about them on the market has been unknown to many dealers. With the passage of the National Food and Drugs Act, however, the attention of the federal and state authorities became focused upon this commodity and with the result, due to proper inspection methods, it is now possible to purchase oysters which contain no more water than they contained at the time of shucking.

Oyster Industry is a Big Industry.

Very few people have any idea of how enormous an industry the oyster growing and packing industry is. According to Stiles, of the Department of Agriculture, it is estimated that approximately 25,000,000 bushels of oysters were marketed in the United States during the year 1912, and likewise that more than 6,000,000 bushels of oysters are marketed annually in New York city alone. An industry which thus represents some twenty or more million dollars per year is surely an industry which needs careful attention from the United States government and inasmuch, likewise, as the industry is one of the food supplying industries of the country, it thus appeals very strongly indeed to the American people.

Oysters are produced along the coast of New Jersey, in and about New York and Long Island Sound, and up the coast of Maine, along Chesapeake Bay and at various points in the Gulf of Mexico. Due to the transplanting of the seed a great many places along the coast waters of the United States have been used as oyster beds by the fisheries of the United States. The fishery statistics show Rhode Island, Connecticut, New York, New Jersey, Maryland, Mississippi, Louisiana and Texas to be the large oyster producing states in the United States.

Canned Oysters.

Aside from the shell oysters and the solid pack oysters there is a small oyster canning industry which, however, is not so extensive in comparison with the fresh oyster industry as it was a few years ago. Perhaps one-eighth of the total valuation of the oyster crop is represented by the canned oyster and seven-eighths of it by the marketing of fresh oysters alone.

The oyster is reproduced from seed, or eggs, a single spa producing upwards of 1,000,000 oyster seeds during a season. After being hatched in the sea water, the

young oyster seed in the course of two or three weeks settles to the bottom where, if it finds a congenial habitat it becomes fixed and the process of growth begins. It takes from three to five years for the oysters to develop sufficiently to make it profitable for the market. During the first season, which may be called the seeding time, the young oysters are used for starting new beds and it is in this condition that they are shipped from one part of the coast to another to establish the industry in various localities. Of course, they are subject to a great many life hazards during the first two or three years of their existence. Other similar products feed upon them and the number which reach what we may call the adult stage is far less than were hatched. It would seem therefore, that this process of nature is very well planned to provide for the general increase under the severe conditions to which the oyster is subject. Probably the most serious menace to the oyster industry is the effect of the pollution through the instrumentality of sewage. The natural habitat of the oyster is in shoal water and this being the case, unless very distantly removed from our cities, it is very apt to become contaminated from the sewage effluence of the city.

The Floating of Oysters.

When the propagation of the oyster became started through artificial means it soon became evident that they could be made to take on enormous size if just immediately before gathering they were floated in fresh water. This was called the fattening process. As a matter of fact, it was taking advantage of a common physical phenomenon known as osmosis, by which the oyster takes in an enormous quantity of fresh water from the outside, therefore increasing the size and weight. Subsequently, when the product was transported inland much of this water again became diffused from the oyster proper and there was an excessive amount of liquid present in the can, or measure, along with the oyster itself. The most serious objection, however, to this so-called floating, or freshening process, by some called fattening process, was the fact that the water in which they were floated was usually a water contaminated from sewage and consequently we have the all too familiar knowledge of the many epidemics of typhoid fever and the like that have been traced directly to the consumption of oysters from such sections. The United States government has begun a remarkable warfare against this practice and it would seem that from a public health point of view there should be no difficulty in securing the support of the entire nation in this matter.

Pollution of Oysters.

The evidence of pollution in oysters is the presence of gas producing organisms and the identification of the colon bacillus, the same evidence which is required in detecting evidence of pollution in drinking water. The remedy for this condition is the prohibition of the use of freshening grounds for oysters and a rigid inspection of the so-called farms where the oysters are propagated.

It used to be the custom to ship oysters into interstate commerce in containers in which chunks of ice were placed. This practice was questionable from two points of view: First, the oysters became actually contaminated with water or adulterated, due to the melting of the ice; and second, the questionable character of the ice from a sanitary point of view increased the hazard of pollution to the consumers in eating the oysters. The Bureau of Chemistry forbids the use of ice in the container containing shucked oysters in interstate commerce and the regulations of most of the states, Michigan included, prevent the marketing of oysters containing more water than that naturally belonging there, and likewise the presence of colon bacillus or gas producing organisms is considered an evidence of pollution.

The oyster industry is one of the oldest industries known but, like many other old industries, it is within a comparatively few years that scientific methods for its control have been adopted, and it is only within the last two or three years that oysters may be eaten by the American people with any very great degree of safety, and this is due largely to the efficiency of national and state food inspection.

Your Grandfather Read It
Your Father Read It
Are YOU Reading It?

Old Farms Made New



An old man can never be made young. A worn-out reaper is fit only for the junk heap. A horse that is past usefulness must be retired. *But an old farm can be made new!*

The owner of a hundred-acre farm was beating all his neighbors in crops, yet his business was a fizzle.

It looked as if he'd have to quit the game to make a living. But he told his troubles to a farm-management expert. The expert got busy and made that farm over from pasture to corncrib. He moved fences, started rotations—did just the things an expert replanning a factory would do.

And when he was done the deficit had been turned into a profit. For several years the Department of Agriculture, through its field agents, has been experimenting with various farms, with the owners' coöperation, along the lines of system and efficiency. We are able to publish the results in a series of four articles, of which this is the first, under the title, *Old Farms Made New*. They tell how to replan a farm for economy in time and labor.

PECANS—A Tree Crop of Tomorrow

A plantation owner set out a sixteen-acre pecan orchard at a cost of \$600. Three years later a friend asked, "What will you take for it?"

"It's not for sale," the owner answered, and \$1800, \$3000, \$4000, wouldn't budge him. Why?

"Because when it is ten years old I can sell it for \$16,000—\$1000 an acre," he declared. Now it is nine years old and he wouldn't take \$16,000, because it will soon be paying twenty per cent. on that valuation.

Tree Crops is the next big thing in farming, says Dr. J. Russell Smith, and he understands this subject better than anyone we know. He studied the nut orchards of this country, and some friends of the University of Pennsylvania thought so highly of his work that they sent him on an 18,000-mile trip through Southern Europe and North Africa, where pecans, chestnuts, walnuts, olives, dates and the rest have flourished for centuries.

He returned with a new faith in tree crops. He tells in this series of articles how the nut industry must be reestablished in America.

Fresh Fowl—or Frozen

Cold storage is a saving grace to the farmer—it prevents glutted markets and equalizes prices the year round.

The poultryman especially will find that the cold-storage plant is his best friend. Here's a story that tells what it means to you as no other article you ever read has told.

A Woman and a Windmill

In the homesteading game on Uncle Sam's free land women win out as well as men; women of pluck and common sense, like this woman who took a windmill along with her when she went out to try to make a home for herself.

"Any woman can do it," she says, "if she will buckle down cheerfully and not try to be a parlor ornament."

This real story of a real woman is better than fiction.

Out West—The Little Landers

Can a family farm a quarter of an acre and get a living out of it? That's the claim back of Southern California's Little-Lander movement. Ever hear of the little landers? We have investigated them. You may be interested in the result.

These Are a Few of the Big Features You Will Find in One of Our Four December Issues. But They Are Not All

Growing Alfalfa for Market. A hundred dollars an acre in a droughty year looks good to Kansas farmers, and their cornfields are rapidly becoming alfalfa fields. Have you tried alfalfa as a money crop?

When Dairymen Get Together. For a long time the dairymen have been divided into many factions. Dealers and producers have waged continual warfare. Ice cream manufacturers have been misunderstood. Breeders have followed false gods and have maligned each other's breeds. But harmony is coming. The last National Dairy Show was really a peace conference as well as a school for producers, dealers and manufacturers. Our article on the Dairy

Show will have a new point of view. It's not merely a list of prize winners, but a foresight into dairy futures.

Progressive Agriculture. A girl made \$107 from tomatoes on a tenth of an acre. A boy raised 167 bushels of corn on an acre. Uncle Sam is teaching 92,000 boys and 33,000 girls how to get the most from the farm, and they are teaching their fathers and mothers.

Then there's a great woman's department, with the advance guard of Christmas shopping suggestions and holiday recipes and helpful hints for the "Mainspring of the farm"—the wife and mother. And a dozen more articles dealing with the two important features of the farm business—economy in production; profit in marketing.

IF FARMING IS YOUR BUSINESS YOU NEED

The COUNTRY GENTLEMAN

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THE CURTIS PUBLISHING COMPANY, Independence Square
Philadelphia, Pa.

Grange.

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

THE DECEMBER PROGRAMS.

State Lecturer's Suggestions for First Meeting.

Song by Grange choir.
"Good will march" about the hall, with singing.
Roll call of officers, responded to by each naming one thing the Grange has accomplished during the past year.
Election of officers for 1914.
Roll call of newly elected officers, responded to by each with a word of greeting or word of promise for the coming year.
"Banquet march," led by officers, present and newly-elected masters together, etc.
Closing song.

THE NATIONAL GRANGE MEETING.

Thirty states despatched to roll call when the National Grange convened for its 47th annual meeting, at Manchester, N. H., November 11. This number exceeded last year's representation by two and is the greatest number of states that have ever participated in a meeting of this organization. Twenty-nine states were entitled to representation last year but Kentucky was absent because of the illness of its master. The new state admitted since last year's meeting is Wyoming, which organized its State Grange on October 1 last.

All officers were present for the formal opening. The session was held in Mechanics' hall, and in calling the delegates to order National Master Wilson made use of a gavel made of wood from the Temple of Ceres in Greece, loaned for the occasion by State Capital Grange, of Concord, N. H., to which organization it was presented by Hon. Geo. H. Moses, once Minister to Greece.

The annual message of the National Master was presented at the afternoon session. Congratulating the organization on its wisdom in coming to New Hampshire, which he declared to be the best organized Grange state in the Union and the center of Grange activity, he suggested that representatives from other states study conditions there. He declared that the Grange throughout the country is in better condition than at any former period in its history and that it is in a fair way to achieve one of its greatest objects, which is to make the farmer of the future a self-reliant citizen. Commenting on the growth of the organization during the year closing October 1 last, he produced the figures which have already appeared in these columns, showing a total of 431 new Granges distributed throughout 29 states, Pennsylvania leading with 53. Regarding extension work, he recalled the action of last year empowering the executive committee to allow not to exceed \$2,000 to any state for organization work, provided that such allowance did not reduce the funds in the treasury below \$90,000. After a few months of extension work the committee found that under regulation No. 1, or the per diem plan, the expense would reduce the funds below the stipulated amount, and therefore issued an order discontinuing the work under No. 1 after April 15, but encouraged all to be active under regulation No. 2. From Oct. 1, 1912, to April 15, 1913, there were organized under regulation No. 1 95 Granges at a total cost of \$7,485.25, making an average cost to the National Grange of \$82.58 per Grange. During the same period there were 202 Granges organized under No. 2 at a total cost to the National Grange of \$3,740, or an average of \$18.51 per Grange. While he regarded the organization of new states of vital importance, he considered of far greater importance the strengthening of states that are now weak, thereby enabling them to do more effective work and to exert greater influence. He recommended careful consideration of the extension work, to the end that a fair and liberal policy which will not imperil the treasury, be adopted.

Briefly reviewing its financial affairs, he showed that the total assets of the National Grange Oct. 1, 1912, were \$99,390.35, and the total assets Oct. 1, 1913, were \$95,923.04. Expenditures during the fiscal year totalled \$46,545.34, of which \$14,500.00 was used directly for extension work.

On co-operation Master Wilson expressed the opinion that patrons generally have learned its value and are practicing it, to a greater or less extent, in every phase except in selling. But he believes there

is more benefit to be derived today from co-operation in disposing of farm products than in buying supplies. Co-operation to be successful, he declared, must be carried on by those directly interested, and while the conference on marketing farm products, which met last April in Chicago, was promoted by those not directly engaged in agriculture or directly interested in it, he would not condemn this meeting, for many good things were said and it may have created a sentiment that will stimulate aggressive action. While the Grange desires to bring about a system of financial co-operation for the benefit of the producer, it does not believe in placing a heavier burden on the consumer, therefore it should be fairly understood that the Grange is opposed to any system looking toward limiting of production or arbitrarily fixing prices. He held that the distance between producer and consumer could be most effectively shortened by improving public highways, by eliminating the surplus of middlemen and by proper regulation of transportation charges.

Direct election of U. S. senators and the parcel post law were cited as examples of Grange achievement and charged the Grange to be active opposing any measure designed to curtail the authority exercised by the postmaster general under the present parcel post law. He also warned the delegates that the oleomargarine interests are active and urged that the organization re-affirm its position on this important matter, which has always been in the interest of consumers as well as producers.

Conservation of natural resources was held to be of paramount importance to this generation as well as to posterity, since millions of dollars are being needlessly lost annually through erosion and other soil losses, since forest fires destroy \$50,000,000 worth of property every year, and since losses in minerals and of water power are as great as in soil and forest. The preservation treatment of lumber was favored as a remedial measure of some importance, and suggestion was made that every practical means of conserving the soil, and the fact that no one has a right to be a soil robber, be taught in the home, the school, the church and the Grange.

The Grange having aided in securing recognition of the principle of federal aid in road building, the Master held that the next step must be actual co-operation of federal and state governments in the construction and maintenance of the more important highways of the country, leaving the remainder to the states for state improvement and to the counties and townships for joint improvement. The first consideration is improvement of central market roads rather than ocean to ocean roads. On the interstate highways the national government should stand all or the greater portion of the expense. On inter-county roads in the states there should be federal and state co-operation. He stated that the cost of transporting farm produce to market is now more than 20 cents per mile, which is from nine to 12 cents higher than it should be, entailing an annual loss upon our farmers of more than \$450,000,000; 20 per cent of our roads are said to bear 80 per cent of our heaviest traffic, and this 20 per cent lies between the farms and the railroad stations. Some of the things recommended for consideration in connection with road improvement are: 1. Use of the state automobile tax, together with such other funds as the Legislature may appropriate. 2. Employment of prisoners of state and county institutions in the preparation of road material, also the use of state prisoners (under state direction) wherever practicable. 3. Payment of all road taxes in cash. 4. Compulsory dragging of dirt roads at the proper time. 5. Safety of road users, such as rules of the road and the proper construction and guarding of crossings at railroads and intersections of streets and highways.

The last of the big public questions discussed was that of agricultural credit. He said that any rural credit system should make it easy and safe for a farmer to borrow money on reasonable terms to buy or improve his land or equipment to operate same, but that a rural credit system suited to the needs in many parts of Europe may not be applicable to our country. Any credit system to be safe must be under direct control of, or operated by, the government. He opposed any rural credit system, or other system of finance, that separates farmers from other business men. All that is asked for the farmer is equal opportunity with any and all other business men. There is no better security than farm mortgages, consequently there is no good reason why the farmer should pay an exorbitant rate of interest to the money lender who borrows direct from the government at 2 to 2½ per cent.

COMING EVENTS.

Michigan State Grange. Forty-first Annual meeting, in Masonic Temple, Flint, Dec. 9-12.

Pomona Meetings.

Clinton Co., at Olive Grange hall, Wednesday, Dec. 3. Special meeting—election of officers in forenoon, installation in afternoon.

Eaton Co., with Eaton Rapids Grange, at Eaton Rapids, Friday, Dec. 5. Address by Gov. Ferris.

Washtenaw Co., at Ann Arbor, Friday and Saturday, Dec. 5-6. Ninth annual Products' and Boys' Corn Contest.

Farmers' Clubs

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—Jas. N. McBride, Burton.
Vice-President—C. B. Scully, Almont.
Secretary-Treasurer—Mrs. C. P. Johnson, Metamora.

Corresponding Secretary—Mrs. Wm. T. McConnell, Owosso.

Directors—C. P. Johnson, Metamora; H. W. Chamberlain, White Lake; Wm. T. Hill, Carson City; Jerry Spaulding, Belding; R. J. Robb, Mason; J. F. Riemann, Flint.

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

FARMERS' CLUBS IN MINNESOTA.

(Continued from last week.)

Many of the Clubs of the state invite business and professional men to their meetings and ask them to talk. In every instance of which we have any knowledge the people invited have been more than pleased and have given good talks. At one Club meeting in western Minnesota a dentist was asked to give a talk on the care of the teeth. He impressed on these people the importance of the teeth and how everyone should have his teeth examined at least once a year. Then he offered to examine the teeth of any Club member free of charge and if any needed attention they should feel at perfect liberty to go wherever they liked to have the work done. Personal hygiene was discussed by a physician at another meeting and a trained nurse discussed first aid to the injured. Lawyers might be invited to discuss economics, business forms, and farm law. Nearly all ministers are glad to attend Club meetings and talk. Farmers from other neighborhoods who have made a success with some particular line of farming can be invited to speak. People with musical talent, from outside the Club, add to the attraction. All these people will add to the knowledge of those present and make them better fathers and mothers, better citizens, and better neighbors.

The knowledge gained by Club members through their association with their neighbors is something which cannot be overlooked. Before and after the program the farmers will get together in groups and talk over their farm problems and many ideas will be brought out which can be taken home and applied. As these groups look over the stock, or wander over the fields of the host, the farmers will often observe changes which can be made in their work which will add to their efficiency and possibly lessen their work. This same thing holds true with the women. They will examine the conveniences and labor-saving devices which the hostess has installed in her home to make her work lighter or to increase the comfort of her family, and listen to the other women talk about their conveniences and methods of doing housework. Many of the ideas gained here can be put into practice at the home and tend to make better wives and mothers.

(Continued next week.)

CLUB DISCUSSIONS.

A New Club.—The Bedford Farmers' Club, of Calhoun county, was organized February 27, 1913, with 30 members. We are climbing to the 100 mark very rapidly as we average six new members at every meeting. We meet the first Tuesday of each month at 11.00 a. m., with various members in their homes, and have a picnic dinner at noon. Our Club was organized on account of the pressing need of the farmers who want to succeed and get the most out of every intelligent effort; to assist them intellectually, financially and socially; to assist them in co-operative buying and selling in large quantities, and help them to a place where they can put their own price upon the fruit of their labors. We have an exchange agent with whom the members list whatever they have to sell, so Club members can buy from one another without the middleman's profit. Could not the various Clubs in the State Association co-operate in a similar manner? We have bought lime in carlots and contemplate buying mill products, fuel, etc., in the same manner. Our Club has been very successful in securing very good speakers, both local and outside, on horticulture, hog cholera, chicken husbandry, stock raising and other kindred subjects. Our November meeting was a very profitable one. Mr. J. F. Stough gave a very instructive talk on "Grape Culture," and Mr. Chas. Johnson gave a very practical talk on "The Winter Care of Poultry." The subject of soil survey was taken up and a committee was appointed to take it up with the proper authorities at Washington. Our December meeting will be held the second Tuesday at the home of

Mr. and Mrs. G. Bradley, on the South River Road, instead of the first Tuesday, so the delegates to the state convention can give their report.—W. R. L., Cor. Sec.

Talked of Schools.—At the regular meeting, November 15, at the home of Mr. and Mrs. Hoag, Peach Grove Farmers' Club held a very enjoyable session. The subject for discussion was "The Course of Study in Our Schools." Mr. Dunlop gave a good paper, pointing out the fact that there seemed to be something wrong, as some, when they have finished the eight years' work, can not write so they could read it the next day. Also, there seemed to be a lack of practical education. Mr. Whitney, an attorney of Grand Rapids, suggested that the practice of fixing the mind on a single subject, exclusive of all else, for ten minutes would be a good practice for the pupil, thus enabling him to fix that particular thought in his mind more permanently. He says that one of the great drawbacks to getting an education is the lack of power of concentrating the mind on the subject. Mr. J. H. Skinner, county agricultural agent, offered a few suggestions that were to the point. He wants to try them in this county. First, he said he hoped the teachers would have a wall chart made with small pockets, each labeled as, dairy, soils, fertilizers, etc., and he will send bulletins and booklets on the different subjects to the school, to be used in the school and district. Second, have each district buy a weather gauge and thermometer, and he would try to furnish a calendar for the year, arranged so that each day a record could be made by the pupils, of weather conditions, as to rainfall, winds, cloudiness and sunrise and sunset, storms and temperature. He will also try to get in each school a nature study calendar arranged so the children can make a record of when the first flowers are found and the kind, when the first robin, bluebird or meadowlark or any migratory bird is seen, when first geese go south in fall or north in spring. Cultivate the habit of observation. Third, he wants the school to have a mail box at the school house so the mail can be left there. The meeting also chose two delegates to the state meeting December 2-3.—M. G. Finch, Cor. Sec.

Hold Annual Meeting.—The Cambridge Farmers' Club met at the beautiful new home of Mr. and Mrs. Ira Nann, Nov. 1, for an all-day meeting. An excellent paper, "Does a college education unfit a girl for farm life?" was read by Mrs. J. B. Daniels. She was very much in favor of the college work and the broader outlook it gave the girl. The annual election of officers was taken up. Mrs. J. B. Daniels was elected president. The program was pleasantly interspersed with music and recitations. Adjourned to meet with John Hand, Dec. 6.—Mrs. Alice Sherrard, Cor. Sec.

Two Good Meetings.—The October and November meetings of the Howell Farmers' Club were held at the homes of Wm. Joy, a farmer, and A. Copeland and wife, in the village. Both meetings had very interesting programs. Mrs. Frank Durfee gave a talk on "The Early Housing and Caring of Poultry," and gave many good points in that line. She thought the hen as profitable as anything on the farm and if given the same chance as some of the Holstein men give their calves in regard to breeding, feed, etc., she will return equally as much profit, everything considered. This paper called forth much discussion among the ladies. Mrs. R. R. Smith read an article on "Pioneer Suffrage," and the question box brought out many current events, such as the Mexican situation, the reduction of tariff on many farm products, etc. At the November meeting a good attendance was present and after the usual opening exercises, Mrs. C. F. Peavy read an article on "Concentration of Mind," by Lillian Russell. The discussion of this paper revealed the fact that while all thought the writer had the right view of the matter, it was not looked after as closely as it should be in our schools. Mrs. George Barnes gave a paper on "Who is who in the home." She thought the moral standard was not kept up in our homes. Men are not born dishonest but environment has made them so. Heredity means much to children but home training more. Mr. H. Williams, the mayor and dealer in poultry and eggs, gave a common sense talk on "Loss due to fallen methods." He cited the legal requirements concerning the selling of eggs and poultry, and said higher prices might be paid, if it were not for the loss which the dealer must suffer by those who persist in selling eggs of poor quality. Uniform, clean, fresh eggs always command the highest market price. He said he was now buying on a basis of quality. Supply and demand regulated the price, instead of competition. Rev. Littlejohn gave a fine talk on "Farm Life," and said his early life on the farm was much to him. Two delegates to the State Association were elected, Spencer Tooley and A. M. Wells.—Mrs. J. Brown, Secretary.

CLUB FAIRS.

The Thornapple Farmers' Club held its first fair, Thursday, November 6, at the home of Mr. and Mrs. Stephen Carter. The commodious house was well filled, and much interest was shown in the display of farm products, ancient tools, and wearing apparel, curios, etc. Some beautiful old china was shown. Though a much smaller amount of produce was exhibited than at our county fair, the quality was equally as good, and it is hoped that from this small beginning, a good fair will become a yearly event in this Club's program. The contest for new members closed at this meeting with a good program. The Club now has 123 names on its roll.—Mrs. Metta Morgan, Secretary.

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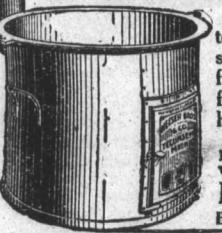
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CONDUCTED BY W. C. FAIR, V. S.

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 someone else. When reply by mail is requested, it becomes private practice, and a fee of \$1.00 must accompany the letter.

Colt Has Lice.—I have a colt 2½ years old that has been troubled with lice for a long time and I have applied a whole lot of insect powder, but it fails to kill them. A. T., Port Huron, Mich.—Put 5 ozs. of crushed stavesacre seed in gallon of boiling water and let it simmer for two or three hours, then strain and fill to original gallon; then wet colt thoroughly. One application will come pretty near killing all the lice that are on him, but follow up this treatment until they are all killed. Twice a week is often enough. Wet stall walls, brushes and curry combs with a solution of carbolic acid and water, 1 oz. to a quart.

Sprained Fetlock Joint.—My three-year-old colt sprained fetlock joint in pasture lot and I would like to know how I had better treat him. My neighbors tell me she might perhaps be lame in hip, but if so, there is no soreness. J. S. P., Attica, Mich.—Give him rest, clip hair off fetlock and apply one part cantharides and eight parts lard to joint every week or ten days.

Sweeney Shoulder.—I have a sweeney horse, brought on by plowing and he has been lame for some time. W. F. S., Palmyra, Mich.—Clip hair off and apply one part powdered cantharides and eight parts fresh lard to sweeney parts every ten days. He should be well fed on oats, and other muscle making food.

Influenza—Distemper—Out of Condition.—Have a four-year-old mare that had pink eye or perhaps distemper the middle of July. Have been working her since she recovered, but her wind is affected. Local Vet. informs me that one lung is consolidated; besides, there is a swelling on under part of belly near udder. This mare when worked pants considerably. Different Vets. have different opinions about her condition. E. U. McG., Lapeer, Mich.—Your mare should have good care, feed mostly on grain, and when fed bulky food, the supply should be limited. Give her a dessertspoonful of Donovan's solution, 1 dr. ground nux vomica and 1 dr. fluid extract lobelia at a dose in soft feed three times a day.

Hide-bound.—I have a six-year-old mare that is thin, skin tight to ribs, when her bowels move a slimy mucus comes away with excrement. What can I give her to make her well? M. A. S., Lansing, Mich.—Give her a teaspoonful of powdered sulphur, a tablespoonful of ground gentian, and a tablespoonful of salt at a dose in feed two or three times a day.

Bony Tumor.—There is a hard bony bunch growing on the jaw bone of my eight-year-old mare which I would like to have removed. She eats, drinks and is in as good flesh as usual. C. K., Dowagiac, Mich.—Apply one part red iodine mercury and six parts lard every few days.

Enlarged Glands.—We have a mare seven years old which had a bad attack of distemper last spring, leaving her glands swollen and when driven fast or is excited she breathes too heavy. A. B., Kent City, Mich.—Give her 1 dr. potassium iodide at a dose night and morning and apply one part iodine and ten parts lard to swollen glands two or three times a week. A surgical operation on throat may be necessary before she is made well.

Indigestion.—I would like a recipe for some good medicine to prevent horses from getting indigestion during the winter months. H. W. B., West Branch, Mich.—Mix together equal parts bicarbonate soda, ground charcoal, cinchona and ginger and give a tablespoonful or two at a dose in feed two or three times a day. Remember, the food supply has a whole lot to do in preventing colic.

Lumpjaw.—I wish you would tell me how to cure lumpjaw in cattle. G. R. G., Walley, Mich.—Clip off hair, apply one part red iodine mercury and four parts lard to bunch every five or six days. Give 2 drs. potassium iodide two or three times a day. Remember in some cases it is necessary to do some surgical work.

Paralysis—Cholera.—I have been feeding my hogs all the good hard corn they would eat and some of them are now unable to get up on hind quarters. Some of them seem to have lost their appetite. I might add that my hogs are nearly all ready to kill—what do you advise me to do? M. D., Mancelona, Mich.—If I were you, I should slaughter all the hogs you own that are fit to market and take a chance on them not being rejected. As you perhaps know, few hogs die of cholera bloat, therefore you have one symptom to guide you; besides, if you open abdomen you would find some lesions indicating disease. It would be more profitable to market them than to treat them if you have cholera infection among them. Feed them equal parts of gentian, ginger, bicarbonate soda and salt; a dessertspoonful is dose enough for a medium sized hog.

Asthma.—Kindly tell me what is wrong with my shoat—he breathes labored when overexerted. Have examined nose, found no obstruction; this ailment showed itself four weeks ago. S. S., Lakeview, Mich.—

Give ten drops tincture lobelia, 10 grs. of murate ammonia and 5 grs. ground nux vomica at a dose in feed three times a day.

Choking.—I am anxious to know what is wrong with my hogs; they appear to grow, put on flesh, but appear to be taken suddenly sick while eating, and sometimes die. I am at a loss to know what is wrong with them. Their bowels act all right and I would like to know what causes their death. I have been feeding them skim-milk and corn and now and then a little stock food. G. T., Ithaca, Mich.—I am pretty sure that death results from choking. You will perhaps obviate this trouble by fixing their food in such a manner as to prevent them eating it so rapidly and taking too much into mouth at one time. Cold food is more apt to choke an animal than hot feed.

Rheumatism.—I have a litter of pigs 11 weeks old that are showing some lameness in hind quarters and they are getting worse all the time. P. C. P., Sidney, Mich.—You are making a mistake in feeding these pigs new corn and milk, for it is not a balanced ration. Feed less corn, more oats, oil meal, roots, etc., and your pigs will soon show some improvement. Give each pig 3 grs. or perhaps 5 grs. of sodium salicylate at a dose three or four times a day.

Sow Recovered from Cholera.—We have a sow that had cholera, but did not die. She seems to have made a fairly good recovery, and I would like to know if she is fatted, how long it will be before her meat would be fit for food. We have another that survived, but fails to get her strength. Her appetite is good and hide seems to be peeling off, and I would like to know what to do for her. H. D. B., Centerville, Mich.—There would be no danger from eating the flesh of your sow now, because if there are any lesions they would perhaps be in vital organs and extremely slight; furthermore, her whole trouble may have been confined to bowels. Apply one part oxide of zinc and five parts vaseline to sore skin of other sow and give her a teaspoonful of ground gentian, a teaspoonful of bicarbonate soda and 4 grs. of quinine at a dose three times a day.

Rheumatism.—Have several pigs that will weigh from 40 to 60 lbs. that are somewhat stiff and lame and they do not grow as rapidly as they should. S. T., Portland, Mich.—Give your pigs 5 or 10 grs. of sodium salicylate at a dose in feed or water three times a day and you had better keep them as dry and warm as possible and if their bowels are not active, give them either castor oil or epsom salts. Their mother having been rheumatic may cause them to be more slow in recovering. Feed them some oats with their skim-milk and buttermilk and it is a good plan to change their feed.

Dog Has Tapeworm.—I have a female dog which has tapeworm; she has passed several links of it, but head has not come away, and as she is due to whelp soon I would like to have her treated. L. V., Marion, Mich.—For every pound that she weighs give her 1 gr. powdered kamala, after fasting her 24 hours. Two hours after giving her this powder give castor oil, if you believe it necessary to open her bowels. She should be given a dose of this medicine daily for two or three days, unless one dose is sufficient. In my practice I frequently give 1½ grs. to each pound of weight, but as she is pregnant two-thirds of this amount will be plenty.

Chronic Laminitis.—Bay gelding 18 yrs. old is sore in both fore quarters and when walking his feet are not lifted more than two inches off ground. I find trouble in backing him. S. R. T., Big Rapids, Mich.—I believe this is a case of chronic laminitis (founder) and if you will apply rolling motion shoes and blister fore coronets with cerate of cantharides every week or ten days he will perhaps travel more comfortably.

Infected Udder.—My four-year-old cow came fresh six weeks ago, caught cold in bag, one quarter caked; applied witch hazel and water, swelling went down, soon returned; a few days later another quarter swelled. I called Vet., who treated her and his medicine did her some good, but stringy pieces of stuff come with milk from one quarter and I would like to know what to do for her. The bag feels cordy. G. R., Olivet, Mich.—Give her 2 drs. potassium iodide at a dose in feed two or three times a day and apply one part iodine and ten parts lard to cordy part of bag daily for a few days, then as often as your own good judgment tells you it should be put on. This absorbent treatment usually gives me good results in such cases.

Rheumatism.—I took a bunch of pigs from pasture two weeks ago, put them in pen, fed them corn; two of them were taken lame in hind legs, in a week I let them out, one died, the other seems to be getting well; what ailed them? G. W., Barryton, Mich.—You fed the pigs an unbalanced ration; too much corn, not enough other kind of food. Feed less corn, more oats, oil meal, tankage, roots, and allow them to exercise.

Farmers living in the northern portions of Michigan are finding that sheep breeding is as profitable an occupation as they can engage in, and that region is developing rapidly in that industry. Many young ewes well adapted for breeding purposes have been brought into the state from the range country at a cost of from \$5 to \$50 per 100 lbs. Montana contributing the principal share, and growing lambs is proceeding steadily, most of them being shipped to southern Michigan for maturing. It is said that all the northern Michigan farmers who have bought breeding ewes in the last two years, have made good profits, but the experience of farmers in this line in northern Wisconsin has been less fortunate.



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