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PROBABLY there is no crop grown in this latitude that will give better returns one year with another, when free from disease and insects, than the potato. For this reason more than any other, it is necessary that we devote special study and attention to selecting healthy seed and employing measures to keep the crop growing rapidly from planting time to maturity.

Scab is a fungus disease. Some of the better varieties are more susceptible to scab than those of inferior quality. This disease is carried to soils which are free from it by planting infected seed. To control scab we must plant healthy seed and plan a system of cropping which will bring potatoes on the field only once every three or four years.

Scab thrives in a sweet soil. Four years ago we had two acres of ground limed and prepared for alfalfa but on account of the alfalfa seed proving unsatisfactory, the field was planted with potatoes. The result was a large crop of tubers so badly infected with scab that it was necessary to utilize them for hog feed. If lime is used to get the soil in condition to grow clover or alfalfa it should be applied immediately after the potatoes are harvested.

The scab fungus will not thrive in an acid soil, and although it may be present, or even scabby potatoes planted in such a soil, the crop will not be badly affected. This does not mean that one cannot grow good potatoes on a sweet soil, for it is possible to keep the soil in condition to grow clover and still not sweet enough to ruin the potato crop by reason of scab, if due attention be given to the use of healthy seed.

If it becomes necessary to plant infected seed, or if there is reason to suspect the soil being infected from previous crops the seed should be disinfected by soaking it in the formalin solution. It is an inexpensive operation and may be done before the rush of work at planting time.

Soils that are badly infected with scab should be seeded to some green crop to plow under and set up a slight acidity which will help eradicate the disease. If the soil is badly infected any kind of treatment will not insure a clean crop. On average soils there will be no trouble from this source if a rational system of crop rotation is practiced and the humus content of the soil maintained by plowing under green forage crops and clover stubble.

The Colorado beetle (potato bug) winters in the soil, coming out in the spring in such numbers that they often make short work of the young plants as they are just breaking through the ground. It is at this time that they are the most difficult to destroy. My practice is to cover the potatoes with an implement which leaves the rows highly ridged. Soon after the field is planted I level off this ridge and continue harrowing until the rows show plain enough to cultivate. If the bugs are numerous at this time I go over the field with the same machine used to cover the seed and throw dirt over the plants to kill the eggs. This does the business effectively and gives the plants an opportunity to get ahead of the next batch of eggs. In one of the recent Maine bulletins this practice is recommended and it is claimed to have origi-

Insuring The Potato Crop.

nated in that state quite recently. This is not so, for many growers here in this locality have practiced it for 12 years that I know of. The professors have overlooked this section if they claim to have originated the idea. The work of destroying these bugs should never be delayed until damage is done the plants, as the loss will amount to many times the cost of the labor and poison required to destroy them.

In some sections the flea beetle does more damage than the bugs. This insect

am coming to believe that it is not all that is claimed for it, or else there are other influences offsetting its efficiency. That it does some good I am sure, but just how much I am not prepared to say. In the one point of killing the Colorado beetle the Paris green mixture combined with the Bordeaux may be very cheaply applied. This reduces the cost of applying the insecticide and makes its use more effective because it adheres better to the leaves than when used alone.

Spraying, to be effective, must be thor-

Take pains to adjust the nozzles and spray to the sides of the plants and give the under side of the leaves the full benefit of the application. It is better to go twice over the field, using a lighter application. Various growers estimate the cost of spraying differently. I have never kept an exact record of the cost of the materials and time used in spraying, because I buy large amounts of the material for use on my orchards and vineyards. However, speaking from a generalized experience, I should say that the average cost was from six to eight dollars per acre.

For spraying potatoes I believe that it is better to use quite a lot more lime than for fruit. Lime helps prevent the browning and hardening of the leaves. This is why the home-made Bordeaux is preferable.

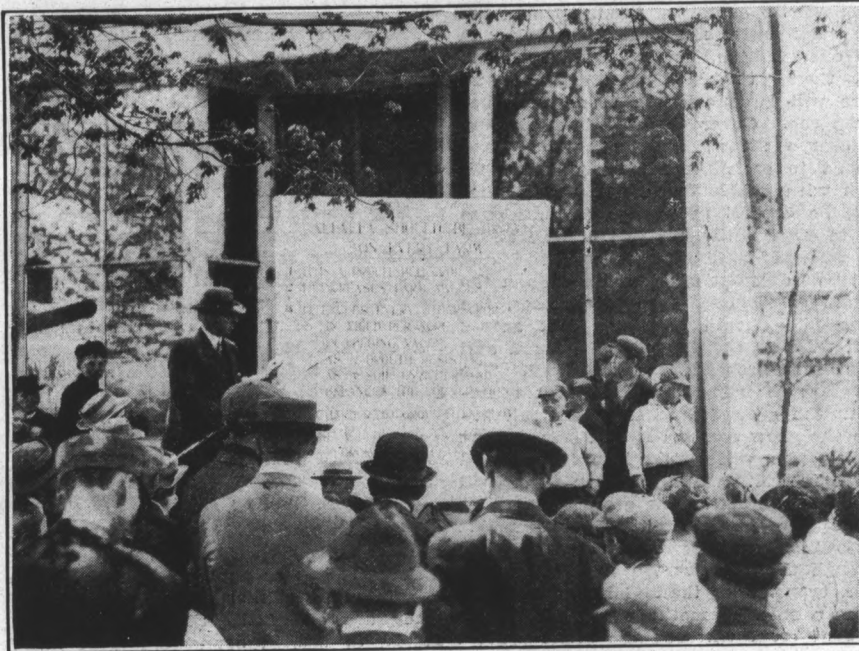
Do not try and save a few dollars when buying a sprayer and get one that is not strong and durable. See that it has a strong agitator working close to the bottom of the tank to keep the mixture in suspension. On level land six rows may be effectually sprayed at a time. A working pressure of from 75 to 90 pounds is needed, whether four or six rows are being sprayed. There are several makes of sprayers on the market and all have some desirable features. It is a machine that needs good care and a patient operator. Study the various makes of machines and demand that one does good field work.

New York. W. MILTON KELLY.

OBSERVATIONS ON TILE DRAINING.

The following information on under-draining may be of some benefit to J. B., of Oceana county, and others similarly situated. Under no circumstances should subsoil be used next to tile, when digging ditch for tile put soil on one bank and subsoil on the other. Try and get down three feet or more in your soil. If unable to get that deep, get as deep as you can, and you should have one-fourth of an inch fall to the rod. When ready to lay tile begin at upper end and lay down stream; 95 per cent are laid down stream. Place a flat stone or brick at end of first tile, turn each tile till you get a fairly good fit at end. About every third or fourth tile laid stop and give them a bunt with your foot, that will take up slack between them. Should you find a place too soft to carry tile use a six-inch board to lay on. Do not let end of tile come even with end of board as the joint will settle there and cause trouble.

When you begin covering, sprinkle soil lightly on the tile, so as not to disturb them. Do not cover nearer than about six tile to where you are laying. When your tile is covered two inches deep, with soil, shovel in the soil you dug out. Also cave soil from bank on each side, if you can, into ditch. Your ditch now is almost one-half full. Now put your subsoil in on top and the job is done. The reason why subsoil should never be used to cover tile is that if there is clay in it, as your case seems to be, the first "heavy" rain that comes will puddle the joints; if the subsoil is sand it will run into your tile and if short of fall the tile will fill. The best time



Illustrating the Advantages of Alfalfa in the Allegan County Campaign.

comes in greater numbers and is more difficult to destroy. Fields attacked by these tiny insects are more likely to blight and are more susceptible to arsenical poisoning on account of the plants suffering from loss of vigor and because the poison has a tendency to settle in the depressions partly eaten through the leaves. Much of the complaint about Bordeaux injuring the plants is due to previous injury by these insects. Bordeaux has a tendency to drive away these beetles from the field.

I have considerable faith in the use of Bordeaux mixture as a preventive of blight, but during the past two years I

ough. No machine can do a good job if the rows are crooked or the ground rough. The work to be effective must be begun before the blight is established, and this also holds good for the larvae of the potato bug. Set the nozzles a little forward or backward to force the spray into the crown of the plant and provide angle, enough so that it will be forced among the stalks and under the leaves, giving both leaves and stalks a liberal dose of the remedy. Sufficient pressure should be maintained to give the mixture force like a jet of steam. Keep the nozzles close to the row and get spread enough to cover the whole of the plants.



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SEED BEANS

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for your job is between the 15th of August and the 15th of September. The water level goes down until about August 15. It begins to come back to the surface about September 15@20, rain or no rain. That is the reason why that time of year is taken for such work.

From description given do not believe you have quicksand. It is what we call common water sand, and at a depth of three or four feet you will not experience much trouble in August. In nine cases out of ten reported, quicksand is water sand.

Three-inch tile is large enough to carry water in drain up to 40 rods, unless you tap springs. If you are going to run in branches you must use larger, according to your own judgment. Place a screen or drive down two or three iron rods in front of the outlet, to keep out the muskrat and the turtle.

If hardpan in your fields gets too dry in summer, when water settles, as it surely will, the ground will become so hard as to be almost impossible to dig. You can save money and time by taking off 18 inches or two feet in fore part of summer, but remember you will save from one-fourth to one-third of the price of your work if done at the time above stated. Just one warning: if conditions are such that you cannot get tile in two feet below the surface, go slow in expending money on tiling. You may get a fair or average crop, but never a bumper crop, such as this land should produce.

That was bad advice you gave your neighbor about coming to the top of the ground to get rid of surface water in that pond. Tell him to proceed as follows: Go to center of pond, uncover five tile, work center one loose, then take the five out of ditch, cut 1½ inches off one tile, then put tile back in place and there will be one-fourth of an inch between tile. Cover them with swale hay or coarse straw, about two or three pounds to each tile is plenty. Now fill ditch with cobblestones, using small ones first, be careful in putting in first ones not to disturb tile, fill just a little above the ground with the stones, level dirt that was dug out of ditch back upon the ground or remove it to low places, the stone pile should be three feet across each way on the top of the ground and about four inches above the level. The objection to using gravel is that sometimes the ground freezes in the fall before the snow comes. If you have wheat or hay you will surely lose it; ice will freeze to bottom and smother it, or will drown it out before the ground thaws, so water can get into tile. In summer it takes too long for the water to filter through the gravel. Water standing upon a crop longer than 48 hours will ruin it, as a rule. Sometimes you may get a part of crop, whereas the stone system never fails. If you will stop and think a minute, water weighs 62 lbs. to a cubic foot. When the water is say, three feet over your tile there is a pressure of 186 lbs. to the square foot, air will go in with the water and the tile will run full. Where ditch is filled with earth there are two currents of air, the upper going up from the outlet and lower coming back with the water, the tile running about two-thirds full.

I have several drains on my place as above described, have been working for eight or ten years and never lost a crop. I know of one here that was put in 30 years ago still in good condition. It takes about a half a day to construct one but once put in will last during your lifetime and it insures a big crop every year.

Livingston Co. N. P. MORTENSEN.

ALFALFA HEAVES BADLY ON WET LAND.

In the March 22nd issue of the Michigan Farmer I gave my experience in seeding alfalfa in oats in April, 1912, and I wish to come back to you again. The season for growing the plant I think was all right, the plant did as well as it could under existing conditions of the soil, and I believe that it would compare with the land in the surrounding vicinity. As I said in my former article, the year before I gave it a light sprinkling of manure, as near as I remember, 12 or 14 loads, not very rich in humus to be sure. Could I have had as much again manure I very likely could have put up a much better showing of alfalfa, but as I said the winter would tell and it has, or rather, the spring. I believe it came through the winter all right until it began to thaw and freeze in March and the fore part of April, and the freezing was very light this spring to what it has been a great many times. During the latter part

of March the alfalfa began to heave, and continued until the second week in April. It did look discouraging enough. I dare say one-fourth of the plants were lifted out, and a great deal of it today, May 5, is sticking out of the ground three or four inches.

I got on the ground as soon as I could owing to the conditions and nature of the ground, and rolled it, but it was a little too late to make much of an impression on the alfalfa in pressing it into the ground. This land is made up of three or four different kinds of soil, from rather light sand to heavy sand and light clay to heavy clay, inter-mixed, and in patches heavy clay. It is very sensitive to spring freezing and thawing and when soft is very soft, just like a mortar bed, and about as sticky. It gets hard very quickly when the weather is suitable. It is good land to produce, have raised 30 bushels of wheat to the acre. It is very seldom too wet for any kind of grain crop. The limestone rock seems to make natural drainage for it, but for any kind of clover it will heave more or less—some seasons a great deal worse than others—and to tile it is almost out of the question.

I ran furrows wherever it needed them to take off the surface water and could I have had more manure to put on I believe it would have stood the test better. Or a number of tons of wood ashes would have put up the showing in great shape, as I had burned a few brush piles around and scattered the ashes around as far as I could, which proved to me that the ashes will do the business and do it right, and I don't believe there is much danger of getting them on too strong.

The reason I am writing this as I am is that I believe it is quite useless to try to raise alfalfa where the land is not well underdrained. Alfalfa will not thrive well in water any more than chickens will. Both need water, but not a great deal at a time. Now as to seeding alfalfa in oats, the kind of land you are seeding has a whole lot to do with the success you are likely to have. If the soil is heavy and strong, so that it will produce a strong, stiff straw, a straw that will stand up, I think there is no danger in seeding with a moderate seeding of oats, say two bushels per acre, and secure a fair crop of oats and get a good catch of alfalfa.

Monroe Co.

J. M. TUTTLE.

LILLIE FARMSTEAD NOTES.

Seeding Alfalfa.

We have just finished sowing 15½ acres of alfalfa, May 10. This is sown in three different fields or patches. Two of these are intended primarily for hog pasture. They are odd fields that will come in handy to use in connection with hogs. One field of four acres is a clay sidehill next to the creek with creek flats. This was tiled out in the low places last fall and fall plowed. I know that June grass is an enemy to alfalfa, and I know that experts tell us not to sow June grass sod or, in fact, any sod to alfalfa. But I wanted to get it seeded to alfalfa as soon as possible and so I ran the risk. As I say, it was plowed last fall, and this has been a splendid spring to subdue the June grass, and when we sowed the field to alfalfa there wasn't a spear of June grass to be seen. It worked up nicely. The other fields that were sown to alfalfa were into sugar beets and lima beans last year and worked up nicely this spring. They were in fairly good condition. On a portion of one field we had rape as a catch crop last season for hog pasture. Some of this rape lived through the winter and is growing up and going to seed. I didn't plow the land but worked it all with disk harrows and spring-tooth harrows, but these tools didn't kill all of the rape. It is a pretty tough plant to cut up with these kind of tools. The only thing to eradicate it entirely is to plow it, and this I didn't want to do because I was afraid the land would dry out so much, and not only that but it would cost so much for tillage. After the land was loosened up then it would have to be packed down and worked up, costing as much for tillage to prepare it after plowing as it would before it was plowed, and I think I have got a better seed bed for alfalfa than I would if I had plowed the land.

Nurse Crops for Alfalfa.

I made some experiments with regard to the nurse crop for the alfalfa. On a portion of each field I used winter rye as a catch crop. The idea is that this rye will not have to be cut for hay. Being a winter plant, by sowing it this spring when the warm weather comes, it will

not head out, and yet it will act as a nurse crop, spring up quickly and shade the land, prevent the weeds from growing, and when hot summer times comes it will cease to grow and give the entire land to the alfalfa. This is an experiment. On a portion of the field I sowed oats at the rate of a bushel to the acre as a nurse crop. And then on a portion of each field I seeded the alfalfa alone, and will know more about which is the best way later on. I am confident that unless the weeds bother to smother the alfalfa it is better to seed alfalfa or any other plant for that matter, without a nurse crop than it is with a nurse crop. I expect to get at least one cutting from this alfalfa this year. At the present time the weather is very dry and cold. We have had very little rain this spring, and while, by conserving the moisture by disking and harrowing rather than plowing, we have got moist dirt near the surface, and I think most of the alfalfa will sprout as soon as the weather gets warm enough, yet we need a good warm rain to bring it along. In fact, we need this rain for all kinds of crops at the present time. My idea is to cut one crop of this for hay this year if the season is favorable and not attempt to pasture it at all, wait until next year before I use it even as a hog pasture. Unless I need one field I will not make a hog pasture out of it but keep it permanently for alfalfa as a meadow. This is somewhat rough or rolling, a little bit too rolling to work with the traction engine to advantage, and I conceived the idea that on this sort of land was the place for me to put alfalfa and then keep it seeded down just as long as it would be thrifty, thus avoiding plowing and tilling this rough land. It is not exceedingly rough, there is no place on it but what one could work with a binder or any kind of tool, but it doesn't work as nicely as good level land, and I intend to put alfalfa in two other fields where there is a gully and a sidehill and leave it permanently. Then I will have all level land for tilling. I can use clover or alfalfa or any rotation that I please upon this land, but retain the rough land as a permanent meadow. If we get a good catch of alfalfa, too, then this land won't erode or wash in the winter time. One has to be pretty careful in keeping these sidehills covered with growing crops, or they will gully in wet weather. Even when it is seeded to wheat, if the rain comes before the wheat plants get a good root, that is, a heavy rain, it will gully.

Inoculation.

I have taken considerable pains to inoculate these fields with bacteria which live upon the alfalfa plant. We got a good big load of dirt from the old alfalfa field and took pains to get it where the alfalfa seemed to be the thickest. I screened this through a gravel netting so that it could be sown with a fertilizer drill and I mixed this dirt half and half with a good commercial fertilizer and set the drill to sow 350 lbs. per acre. Now this dirt is certainly evenly distributed all through the soil. But to make sure and to give double inoculation I also inoculated the seed by the glue method. I dissolved a pound of glue in about a gallon and a half of water. Then I took some of this dirt and screened it through a very fine screen so that it was nothing but fine dirt. Then I moistened the alfalfa seed with the glue water and then mixed some of this exceedingly fine dirt from the alfalfa field with the seed, stirring it all up together. This helped dry up the seed and when the glue dried it glued some of the fine particles of earth to the seed. One would be surprised to see how much of this fine earth it would take up, and it sticks. The glue sets quickly, the dirt helps dry up the moisture that you put in and we could drill the seed successfully through the drill in an hour or two after it was mixed. Now if I haven't introduced the alfalfa bacteria into this soil I don't know how one would go to work and do it.

COLON C. LILLIE.

FIRE DRIED SEED CORN.

More than 90 per cent of the Michigan Corn Crop of last year went into the shed or crib in more or less soft condition, and after being subject to excessive moisture and hard freezing all winter, very little of it is fit for seed purposes. It is only Corn that has been kept in the house, or some building where there has been a fire, that is really fit for seed purposes. We shall be pleased to mail samples of our High Test Fire Dried Seed Corn upon request, free of charge.—Alfred J. Brown Seed Co., Grand Rapids, Mich.—Adv.

Horticulture.

LIME-SULPHUR INJURY.

Lime-sulphur succeeded Bordeaux mixture in popularity mainly on account of the injurious or burning effect, which caused the russetting on the fruit, that Bordeaux mixture had. We thought that we had gotten away from spray injury when we started to use the lime-sulphur as a summer spray. But we have quite frequently spray injury or burning from the lime-sulphur. The injury is mainly that of the foliage although it sometimes affects the fruit. It is not nearly as serious as the injury from Bordeaux mixture in seasons when Bordeaux injury is prevalent.

Too Much Material.

The cause of the injury from lime-sulphur is too much lime-sulphur on the parts burned. This may be done by applying too strong mixture or too heavily of a more dilute mixture.

The method of application undoubtedly is the most important determining factor with reference to this matter of spray injury from lime-sulphur. A comparatively strong dilution, when applied by a fine mist and with the spray rod kept on the move so as to not drench any part of the tree, may be applied with safety when a weaker dilution applied by a coarse spray and with low pressure would burn the foliage.

Water used for dilution is only the carrier of the lime-sulphur. It is the amount of lime-sulphur left on the foliage after the water evaporates that determines whether there will be injury or not. Therefore, a dilution of one to 50 applied with a fine mist would not leave much more lime-sulphur on the foliage than one to 75 would if it was applied twice as coarse and twice as heavily.

One might present the argument that the foliage will hold only about so much water and that the surplus will drip off and therefore the weaker strength applied heavily will not do any injury. The drip does not carry with it the original amount of lime-sulphur; there is some of it left on the foliage. The heavily sprayed parts of the orchard can always be distinguished from those not sprayed so heavily by the heavier coating of material.

Effect of Weather Conditions.

The condition of the weather undoubtedly has much to do with burning effects from the lime-sulphur. There is considerable difference of opinion as to what kind of weather is most favorable for injury. The writer used to think that if rainy conditions prevailed during or near spraying time the injury would be worse than at normal times. Recently, however, his conclusions are that the dry hot weather is more favorable for injury. He has sprayed trees right after rain and just before and noted no injury. He has also noticed more injury after a dry spell either during time or some time after than he has at other times. During the season of 1911 we had more burning than during 1912 when we had considerable rain.

Some Experiences.

The following incidents show well the main cause of injury, the method of application:

In a pear orchard all of the trees were burned in about the same place which was a little more than half way up on the tree. Two men were doing the spraying, one on the tank and the other on the ground. Each had his part of the tree to cover but at this place their work overlapped. The double dose of spray caused the burning.

In an apple orchard the outer side of the end trees of the row were the only ones burned. Here, the spraying was done by one man and from the top of the spray tank. His horses were well trained and would obey his commands without his touching the lines. While they were turning at the end of the row to go back on another row he kept his spray rod playing on the trees, giving the outer parts a much heavier application than the others, and therefore the burning.

A peach grower did not care to use self-boiled lime-sulphur on account of the trouble of mixing it. He was told of the precautions to be used when using the commercial lime-sulphur as a summer spray for peaches but did not think them important enough to give them much consideration. Therefore he hired the spraying done by the gallon. The

man who did the job had his own interests in mind and put on all of the gallons the trees would hold. Six hundred dollars of fruit was spoiled and some trees were killed.

The lime-sulphur can not be generally recommended for peaches because of the differences of opinion regarding what a fine mist is and what keeping the spray rod on the move while spraying really consists of. Many are using it successfully, but others who wish to try it should do it on their own responsibility for no one else wishes to be responsible for a crop of fruit.

Some growers are using it quite successfully on peaches, and some have been successful with it as strong as one to 40. One grower having a steam sprayer has very good success as the spray comes out almost like a vapor. But, while one to 40 has been applied safely one to 140 has caused injury. These differences in results must have been due to differences in methods of application, weather conditions, or both.

Those who wish to try it should pay especial attention to their method of application. Care should be taken to have a mist-like spray. There should be no time taken to tell fish stories while spraying, because strict attention should be given to keeping the spray rod on the move. Every part of the tree should get just a thin coating of the spray material. One to 75 is the strength which would be best for peaches.

Van Buren Co. FRANK A. WILKEN.

PLANT GARDEN SEEDS CAREFULLY.

Even stands of garden crops where the plants come up the same time and in their proper place, are almost always the result of careful planting. Seed can be well planted only when the ground has been made fine and mellow. Lumps prevent even covering and the making of straight rows. But care must go with this well-prepared soil.

The rows need to be established by some plan that will make them straight and regular so they will not only look well but offer no obstruction to cultivation and the best way in the average garden is to use a line. The spaces should be measured exactly each time the line is set over and the marking of the row or the digging of holes for set plants, like cabbage and tomatoes, should always be done from the same side of the line.

Seeds vary as to the depth they should be planted. Generally speaking, fine seeds should not be planted as deep as coarse seeds. No absolute rule can be laid down, however, for the nature of the seed, the climate, kind of soil and its preparation all have a bearing upon the question. The information given on the packages in which garden seeds are usually sold, is generally reliable and should be followed except where experience has proven that a different depth is better. But the matter is a very important one and when making the mark for the seeds one should know what is going to be planted and the requirements for that particular kind.

All garden seeds require that the earth be packed firmly about them. The gardener proves this by pointing out how a better stand is secured where the soil over the seeds is tramped down by treading it, after which a mulch is formed by pulling the garden rake over the row. This practice presses the soil close around the seed and still loosens the surface to prevent rapid evaporation, conditions which supply the seed with a constant supply of moisture. This benefit is augmented where the spaces between the rows are cultivated before the plants come up.

If you have been planting the garden carelessly try doing it well this season, that the garden may have a chance to show you it should be more highly regarded.

Because fruit growing is not an exact science it requires a closer application of thought and executive ability than do most manufacturing processes. After a manufacturing plant is once in order much of the work can be delegated, but the fruit grower needs to be constantly watching his trees and suiting his work to new conditions as they appear.



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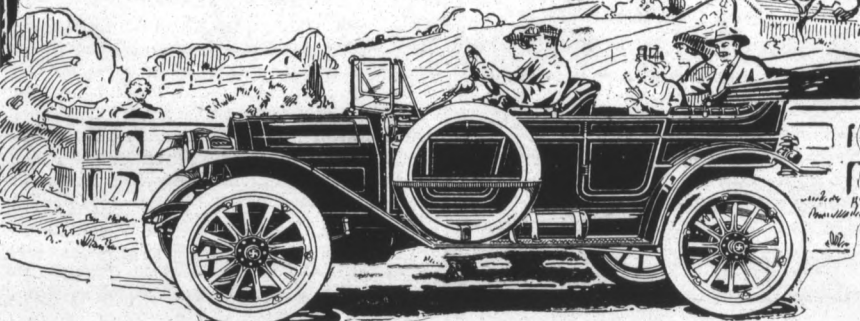
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Live Stock.

FEEDING AND CARE OF THE CALF.

Few farmers raise the skim-milk calf as he should be. Not enough care nor the right kind of food, is given the animal and consequently he often turns out badly. As soon as the calf is able to stand, he should be aided to the colostrum milk. Some farmers milk this out, thinking it harmful to the calf, since it has a disagreeable taste. Colostrum is laxative and highly important for cleaning the alimentary tract of accumulated fecal matter and properly starting the work of digestion.

The calf should be with the cow two to three days before weaning. The sooner he is taken from the cow the easier it is to teach him to drink from the pail. After taking from the cow he should be starved for 12 to 24 hours. Then after he once gets a taste of the milk from the pail, he will be anxious to drink. First, let him suck the finger, and then thrust his head into the pail. After he once gets started there is little trouble in getting him to drink. The first few days after weaning feed the calf small amounts of whole milk four or five times a day. After three weeks gradually change over and feed him skim-milk. Increase the milk from time to time but do not over-feed, as scours will result. The average amount of milk for calves, 75 lbs. in weight, is eight to 10 lbs. per day, dividing the milk equally between the feeding periods.

At feeding time the calves should be confined in simple stanchions, to remain for a time after the milk is drunk, in order to consume their grain allowance and pass the desire to suck each other's ears. It is important to have a fresh supply of suitable dry concentrates, preferably whole grain, in the feed box at this particular time. Dry feed then eaten takes up the saliva which is flowing freely in the mouth, stimulated by the warm milk. The change from whole milk to skim-milk should be made gradually. Feed one pound of skim-milk to two pounds of whole milk the first day at each feed, and two pounds of skim-milk the second day, and so on until on full feed of skim-milk. This change should take at least ten days. Have the milk sweet and at blood temperature. When the calf is three months old, he will be drinking about 20 lbs., the amount depending on the animal. Some can handle a large amount more satisfactorily than others. Milk from the creamery is not good to feed as it is often contaminated with disease germs. It should be pasteurized if used at all.

Scours are due to improper feeding or unsanitary conditions. If the calves have a bad case, cut the milk ration one-half and give them one teaspoonful of blood meal with the milk. A couple of raw eggs or two drops of camphor given with the blood meal every hour is an excellent remedy. It is best to prevent this disease by proper feeding and sanitary conditions.

Fall calves or spring calves can be turned out on pasture, feeding grain at the same time. Grass makes them grow and keeps them in a healthy condition. It is best to use care in first turning them on grass as too sudden a change is dangerous. This may be overcome by allowing the calves to graze for only a short time the first day and gradually increasing the time each day until they become accustomed to handling the green feed, or what is better, gradually get them used to green feed by an increasing daily allowance of soiling crops. Have plenty of fresh water and salt at all times for the calf.

Start the calf to eating grain when he is small. Put a little corn meal or bran in the pail of milk and he will soon learn to eat it. When he is six weeks old he should be eating one pound of grain per day to be gaining properly. A good ration is three parts of shelled corn, three of ground oats, one of bran and one of oil cake by weight, increasing the amount gradually, the amount depending on the way the calf cleans up the feed. Shelled corn is usually better than ground corn as it is relished by the calf to a greater extent. The calf learns to eat the grain more readily if a little bran forms a part of the ration in the start. The following are excellent combinations and may be used as a guide to suit your conditions:

Whole oats and bran, equal parts;

whole oats and corn chops, the latter gradually replaced by shelled corn in three to six weeks; whole oats, barley and bran; a mixture of 20 lbs. of corn meal, 10 lbs. of blood meal, and 5 lbs. of bone meal, changed to corn and oats and bran when the calves are three months old. There is little danger of the calves getting too fat on any of these grains while being fed skim-milk.

Roughage of some kind must be fed. The quality of hay should be of the best, always clean and bright. It can be placed in a rack in one corner of the pen and any uneaten should be removed at the next feeding time and a new supply added. Roughage increases the development of the digestive organs and increases their capacity. When the calf is six months old, a full grain ration and roughage ration can be fed and be very satisfactory without the skim-milk.

Indiana. J. C. KLINE.

FEEDERS' PROBLEMS.

Vetch and Rye Hay for Horses.

What experience have you had feeding vetch and rye hay to horses?

Oceana Co. H. L. K. Vetch and rye is said by those who have grown it to make a fairly satisfactory hay. The writer has, however, had no experience in feeding it. We will be glad to hear from our readers who have had experience in feeding this hay to horses and other live stock.

LIVE STOCK NEWS.

In an address delivered before the sheep breeders of Illinois, A. J. Knollin said, "At present we are consuming nearly eighteen million sheep and lambs per annum in the United States, and there has been no time within the last ten years when business conditions were normal that lambs did not bring the grower remunerative prices. On every quarter section farm 40 ewes can be kept with very little expense."

According to John Martin, a prominent sheepman of eastern Montana, the number of sheep in that part of the state is 30 per cent less than last year, and throughout the extreme eastern part of Montana there are hardly any flocks. In the Burns Creek section, where last year approximately 50,000 sheep were run, there is now not a hoof. Conditions are generally the same in the vast region extending eastward from the Divide, he says, and Chicago and northwestern markets will notice the change the coming summer and autumn.

Fat little yearling steers and heifers have been extremely popular with buyers in the Chicago market recently, and frequently prime yearling steers have sold at higher prices than the best long-fed, heavy cattle. Not long ago a Missouri stock feeder marketed there a car load of mixed yearling horned well-bred Hereford grades that averaged in weight 772 lbs. at \$8.75 per 100 lbs. They comprised steers and heifers and were fed molasses feed.

Superabundance of cheap corn and other feeds is causing stockmen throughout most feeding sections to feed all the corn their cattle, hogs and sheep will get away with these times, and no better use can be made of corn than by converting it where grown into beef, pork and mutton. The extremely high prices that have been prevailing in the markets of the country for finished cattle, hogs and sheep have furnished the strongest of inducements for finishing them off in good shape, and the average weights of cattle and hogs have been running much heavier than a year ago, while sheep and lambs have received far more care than has been the practice in former years. In the case of lambs and yearlings it does not pay to make them heavy, since the public calls for light cuts of lamb meats, and the heavier lambs are strongly discriminated against by the packers and smaller butchers in the Chicago and other markets of the country.

Fair supplies of fat hogs are reported in northwestern Iowa, South Dakota and southern Minnesota, but elsewhere they are far from plentiful, and there is a well-known shortage in Illinois. Light marketings for May are generally expected. A good many pigs farrowed in March died and many farmers are disposed to breed sows back, so that summer marketings promise to be severely curtailed. Many farmers are discovering that marketing their older sows and using gilts for breeding is a mistaken policy and one that must be held largely the cause of short pig crops.

W. D. Merritt, of Iowa, a well-known breeder of Angus cattle, has three brood sows which on April 14 farrowed 46 pigs—one 12, one 16 and one 18. This all happened within two hours. He owns eight sows that farrowed this spring 102 pigs, 80 of which are now living. Mr. Merritt breeds Duroc-Jerseys.

Distillery cattle are moving in gradually increasing numbers to market, a goodly number having reached the Chicago stock yards already, and it is understood that large shipments will be made from Kentucky and other states during this month.



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WHERE TO PLACE VENTILATING SHAFT IN STABLE.

Will a ventilating shaft 8x20 in., built directly up through the barn roof, be all right? How far above the roof should it extend? And how should the end of the shaft be covered? In your recent answer to my inquiry you favored a different plan than I suggested. I would like to change plan but have lumber and timbers at mill and cannot rearrange it now. However, it does not appear to me that one can arrange two rows of stalls with an alley for feeding in front of each and a driveway between for removing manure with wagon and team, where the barn is only 36 feet wide. I am planning on flooring my horse barn with cedar blocks six or eight inches long, placed on end and held in place by pouring cement between them nearly to the top of the blocks and filling the remainder with sand. The blocks would protect sharp shoes from being dulled.

Osceola Co. L. V.
It doesn't matter so very much where you place the ventilating shaft so far as efficiency is concerned. Place it in the most convenient place. Like the hay chute, it is out of the way more in the storage part of the barn, and, in fact, in the stable, if you place it to one side and have it run up through the stable, through the storage or hay loft, and then out the roof. If you put it in the center of the barn it is right in the way, especially in the storage part of the barn where it would come right in the middle of the mow. Now the air will get to this shaft no matter where you place it, at the end of the barn or near the middle of the barn. I would recommend that you place it at the side of the stable midway from end to end. Then, of course, the foul air don't have to go so far to get to the ventilating shaft as it would if it was placed to one end of the stable.

With regard to its height, the ventilating shaft works on the same principle as a chimney—the taller it is the better it will draw. If you go through the roof near the eaves then you will have to build it up higher than the peak of the barn. It certainly ought to be higher than the peak of the barn in order to get good draught. If it only just nicely projects through the roof near the eaves then when the wind comes from the right direction it will just swoop over the peak of the barn in a downward course and some of the air will be forced down the ventilating shaft. It is just the same as a chimney. When a chimney goes up through the roof near the eaves and it is not as high as the peak of the roof when the wind is in the right quarter the stove below will smoke. It won't work right. And that will be the way with your ventilating shaft.

There ought to be some sort of a roof on this ventilating shaft. It would be an excellent thing if you had a funnel-shape which could revolve with the wind so that you would always have the opening away from the direction of the wind. Then the wind would not interfere so much with the draught. This, however, is quite expensive on a large shaft, although it is the very best way. But if you have the shaft project up higher than the peak of the barn then you can put any kind of a roof over it. A peaked roof, like the barn roof, open at the small gable ends, will work all right.

Since the plans are all made for the barn and the orders given for the sawing of the lumber, arrangements made for the cement, and everything of that sort, there is little use in discussing this proposition where they cannot be changed. You say, however, that a barn 36 feet wide isn't wide enough to have a driveway in the center, but if you will figure over carefully you will see that it is. You will have room for two four-foot feeding alleys for your animals, you will have room for two rows of stalls, also for two gutters, a foot wide, or eight inches wide at least, and then have a driveway between plenty wide enough to drive through to remove the manure.

BALANCED RATION FOR DAIRY COWS.

I have oats, barley, rye and wheat. Could you compound a balanced ration for milch cows with them? The cows have plenty of grass in summer and winter rye hay, wild hay and straw for roughage in winter.

Mont. A. J. M.
For milch cows I would feed liberally of oats. You could feed oats and wheat,

which would make a very good ration for dairy cows. I would feed these in the proportion of two parts of oats to one of wheat, ground together, giving as many pounds per day of this grain ration as your cows produce pounds of butter-fat in a week. If you have good pasture you won't need to feed as much of the grain because pasture is more digestible and more palatable and the cows will eat more of it and need less grain on pasture than they do when you feed dry roughage. In the winter time when you are feeding the rye hay, or wild hay, this would make an especially good balanced ration for the cows.

PASTURING COWS ON ALFALFA.

I have a small field of alfalfa two years old in June next. Cut it for hay three times last year and the fourth growth got large enough to cut. But I turned my hogs in to see the effect of feeding them and I never had hogs do as well as they did while on that, with a liberal amount of corn, as I was fattening them. It is now thrifty, and good color, and I intend to use it for hog pasture this summer. Now what I want to know is, what about putting cows in? The effect on the cows and the alfalfa as a damage to its future usefulness? Will it injure the alfalfa by turning the cows on? I have read that it is not safe to pasture cows and horses on it. But I have lately returned from a trip to Nebraska (left last November), and California and there they pasture it lightly, and alfalfa is their principal hay crop.

St. Joseph Co. O. J. L.
Alfalfa is not an ideal plant for a cow pasture. In the first place, if cows consume green alfalfa, especially when it is wet with the morning dew or right after a rain this wet alfalfa will ferment in the cow's stomach and cause bloat or hoven. Many people have lost cattle from turning them onto alfalfa fields. So it is dangerous to pasture cows on this luxuriant growing legume. On the other hand, the very nature of alfalfa is such that it is not adapted to being pastured by cows or horses or sheep. Alfalfa ought not to be cut until the new growth starts at the crown. Now when cattle and horses and sheep pasture they bite the plant off tight to the ground or the crown, and this is injurious to the plants. If you pasture alfalfa very much with cattle or horses or sheep you may be sure that you are shortening the life of the plant. It may survive for a year or two but it will soon run out because you are injuring it every time you cut it before the new growth starts from the crown. Then it ought to be cut.

Now in a hog pasture the case is different. Hogs do not bite off the top of the plants the same way as cattle, sheep and horses do. They walk through the alfalfa and bite off a branch here and leaves there, but they leave the largest part of the plant. It isn't cut down close to the crown, and if you don't have too many hogs for the amount of alfalfa it will scarcely be injured by a hog pasture. The idea is to have a large acreage of alfalfa in proportion to the hogs so that they will not consume anywhere near all of it. Then, when the time comes that the new growth starts from the crown take the hogs out and cut what is left for hay. Then after the alfalfa starts up again you can turn the hogs back and pasture.

Again, many animals like horses and cows tramping through the alfalfa, step upon the crowns and crush and injure them. The plants won't stand this tramping. But with hogs it is different. Hogs have small feet and they step between the alfalfa plants and do not injure the crowns, and so alfalfa may be considered to be an ideal plant for hog pasture if you do not have too many hogs to feed it down close. It should never be pastured so but what you will have a crop of hay when it is time to cut it. Then you can pasture it promptly with hogs, but always remember you must have a large area. On the other hand, it does injure the plant to pasture it with horses and cows and it is liable to injure the animals by causing bloat or hoven. I would not think of turning my cows or sheep into green growing alfalfa. I should be afraid that they would have the above serious trouble.

The kicking cow is sometimes an outgrowth of long finger nails. The manicure set is not one of the ordinary tools of the dairyman, and yet well trimmed nails are an essential.

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Poultry.

CARING FOR MARKET EGGS IN HOT WEATHER.

Last year the Department of Agriculture called attention to the fact that, for keeping qualities, the infertile egg is superior to the fertile one, and that of the loss of \$45,000,000 or more in the annual value of our egg crop, due to poor quality, at least one-third, or \$15,000,000, is due to "blood rings." A blood ring is caused by the development of the embryo of a fertile egg subjected to heat and its subsequent death. No embryo can form in an infertile egg. In short, an infertile egg will keep under adverse conditions where the fertile one will not.

In co-operation with Kansas Agricultural College the Department has carried on some experiments designed to throw light upon practices and conditions prevailing upon a majority of farms and in large part responsible for the great aggregate loss mentioned above. Results show that infertile eggs, regardless of where they may be kept, are much more resistant to deterioration than fertile ones. For instance, the development of the embryo in fertile eggs was easily seen by the aid of the candle after 24 hours of incubation, while at the end of 36 hours the presence of blood could be detected. Subjected to the same conditions, infertile eggs showed only a slight shrinkage of the contents.

From the general study thus made of the conditions surrounding the production and care of eggs upon the average farm the conclusion was reached that about two-thirds of the total annual loss occurs on the farm, being due primarily to haphazard management. However, it was found that, with the present methods of transportation, it is impossible to avoid some deterioration in quality of eggs during shipment in hot weather. From data secured it has been estimated that this loss is in the neighborhood of 12 per cent of the original value of the eggs. The results in general point unmistakably to the fact that the production of the infertile egg is the greatest asset in the attempt to produce high-quality market eggs during the hot months, and, to those engaged in such production, observance of the following five general rules is urged by the experts who have been studying this important problem: 1. Give the hens clean nests. 2. Gather eggs at least once each day. 3. Keep eggs in a cool, dry place. 4. Market eggs at least twice a week. 5. Kill or sell all mature male birds as soon as the hatching season is over.

GUINEAS FOR PLEASURE AND PROFIT.

(Concluded from last week.)

When starting with guineas, better buy eggs than birds, because when the latter are taken to a strange location, they are liable to take "French leave" and never return. They usually stay where they are raised if possible. Like quails they go in pairs or trios, as a rule.

Guinea eggs can be successfully hatched in incubators. Those who hatch them in large numbers nowadays, are using incubators, almost exclusively. Guinea hens should never be used to hatch the eggs, because they are poor sitters and poor brooders. The safest plan is to use large, quiet chicken hens. Hens soon tame the guineas if they are used to hatch them. It is a very good plan to put a few hen eggs with the guinea eggs, after they have been set a week or a little less. As a rule guinea eggs require from 26 to 28 days to hatch. Under very favorable conditions they will hatch a day or two sooner than this. A large, heavy hen that is a good sitter will usually hatch any kind of eggs in less time than one that will not stay very closely on the nest.

Be very careful to keep the hens free of vermin. Young guineas, like turkeys, are easily killed by a few lice. If there are any lice on the premises one must keep up a constant warfare. I always give the sitters fresh, clean nests, well dusted with some good louse powder. The hens are dusted also. Never use oil on sitting hens.

When saving guinea eggs for hatching purposes I wrap them carefully in paper as soon as possible after they are laid, then place in a box kept for the purpose, turning them every day until they are put in the nests. If guinea eggs are kept in a cool dry place they will keep in good

hatching condition for 21 days. However, it is best to set all varieties of eggs while fresh.

A good nest is necessary for a good hatch. If a nest is too deep (as a guinea hen is apt to have it) the eggs will not hatch well because those underneath will not be kept warm enough. A piece of thick grass sod makes a good foundation for a nest. It should be slightly hollowed out and lined with some fine dry grass or something similar. After guinea eggs are set two weeks they should be dipped occasionally in tepid water. Every three or four days is about right. The shells are very thick and, even after the chicks break them they have more or less trouble getting out. When they are slow to hatch I pick off a little of the shell and they soon get free. By "slow," I mean those eggs that remain merely pipped, after the others have hatched.

Be careful to have the nest either on a floor or close to the ground. A young guinea is very active and will not stay long in the nest. I always have the nests enclosed with boards or fine mesh netting. Half-inch poultry netting is the kind to use. Guinea chicks are so small that they can easily get through one-inch mesh.

Have the coops or houses ready for them when they hatch. Small yards enclosed with boards or netting are essential. Coops or houses should be well ventilated and arranged to admit plenty of light. Scatter some fine litter or cut straw on the floor of the coop so it can be easily cleaned. I sometimes spread heavy paper on the floor of the brood coops. When soiled it can easily be removed and burned. This is a great labor saver when ordinary brooders are used.

Young guinea chicks are very timid at first, and slow to learn the ways of the chicken hen, unless they are closely confined for a few days. If a few hen eggs are placed with the guinea eggs the chicks will learn the young guineas to follow the hen. Otherwise they will wander off or take fright and get lost in the grass when given free range at the end of the second week.

Feed young guineas a little every two hours for the first two days. Then every three hours until they are a week old, and after that every four hours until they are given a larger range. I feed young guineas when they are 12 or 15 hours old. They are unlike other young fowls and must be fed little and often. Of course, they are fed only in day time. The first feed should be dry bread, either soaked in a little sweet milk or crumbled finely, dry. I sometimes mix hard-boiled eggs, crushed shell and all, with the bread crumbs, but it is not advisable to feed very much egg. Chopped lettuce, chopped onion tops or fine young grass is frequently added to the other feed; also coarse clean sand, for grit. I prefer to feed a little finely chopped fresh meat once in a while, say every other day, until they are turned loose. The meat is better for guineas than boiled eggs. However, their food must be varied. They thrive on anything and everything that is suitable for young turkeys, such as cracked wheat, pin-head oatmeal, (rolled oats are as good), soaked millet seed, etc. Cracked corn is an excellent food after they get a good start. Grit and plenty of clean water must be kept in reach at all times.

Ohio.

ANNA W. GALLIGHER.

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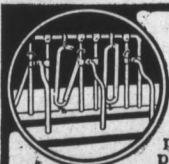
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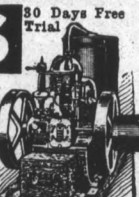
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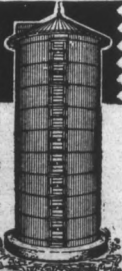
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Practical Science.

MAINTENANCE OF SOIL FERTILITY.

BY FLOYD W. ROBISON.
Prevention of Waste as a Good Indication of Thrift.

In journeying through the country it is very difficult for one who has agricultural interests at heart to avoid a study of the comparative thrift of any particular community. There are different points of view as to this question. One judges the thrift of a country by the appearance of the soil; another perhaps by the condition of the crops; still another by the kind of buildings and their condition; and some undoubtedly judge a community from the standpoint of the cleanliness of the surroundings, the upkeep of barns and absence of weeds and rubbish. There is, however, one almost infallible measure of a farmer's thrift, and that is on the question of the conservation of the natural manures on the farm.

Successful Farmers Carefully Save the Manure.

A number of years ago the writer had occasion to journey quite extensively through the rural districts of the southern peninsula, in obtaining samples under the law of commercial fertilizers on sale in the state. We were quite struck with the uniformity with which this relationship between the conservation of manures, the use of commercial fertilizers and successful farming were associated. Not all apparently thrifty farmers used commercial fertilizers, but all, almost without exception we may say, exercised great care in preventing the waste of the natural manures which they had on the farm.

Saving the Manure Almost as Important as Saving the Crop.

It would seem an absolute waste of time and money if a portion of the crop raised were allowed to decay on the land or be entirely wasted. No argument is needed to convince even the most slothful farmer of this plain rudimentary fact and yet many times more is wasted by a failure to properly conserve the natural manures upon the farm than if a considerable portion of the crop were allowed to remain unharvested on the land. For, in the failure to harvest the crop you are not particularly depleting the soil of its fertility and a succeeding maximum crop is possible, but in a failure to return to the soil the natural manures which belong there, not only is a considerable value of that particular soil wasted but its effect is apparent likewise upon succeeding crops.

Basis of Manure is Food Consumed.

The basis of all natural manures, of course, is food consumed, and if the liquid excrement as well as the solid excrement is properly conserved, the manures are almost exactly equivalent to the food consumed. In a mature animal, that is, we may say, a steer or a dairy cow three years old and over, if we should analyze the food before it is consumed and again analyze the excrement both liquid and solid, which are the results of the digestion of that food, we would find that the nitrogen, phosphorus, and potash in this excrement would be practically equivalent to the nitrogen, phosphorus and potash in the food consumed. In other words, the maintaining of a mature animal on the farm, if properly managed, is not at the expense of soil fertility. On the other hand, because of the reduction of the complex food compounds, formed from the soil by the growing crop, to the simpler compounds, through the medium of animal digestion, the soil may in reality be building up its immediate productive capacity with the use of animal manures. The nourishing of a mature animal, therefore, simply consists in an almost even exchange of nutrients, the phenomenon of digestion returning to the soil the equivalent in more available form of the nutrients consumed by the animal in the feed removed from that soil.

Solid Excrement is the Undigested Food.

The solid excrement represents, of course, the coarser and more stable undigested food compounds and if these constituents were even put back upon the soil in the condition in which they were grown they would not be nearly as available for plant food as after having passed through the alimentary canal of the animal during the attempted digestion which these more resistant portions have withstood successfully. They have been

subjected to the attacks of the various digestive juices together with the mechanical grinding and pulverizing of the various digestive organs; the prolonged subjection under trying conditions to body temperature; all of which have had their very desirable influences in rendering more accessible to the various agents of the soil the compounds there represented. Not only has this action conferred its valuable effects upon the undigested residue but if the manures are properly treated, this further modified influence outside the animal body lends likewise its valuable effect. Altogether too frequently, however, this step outside of the animal body which, of course, depends upon the intelligently directed efforts of the farmer is turned into an actual waste and the results which nature has so beautifully started and encouraged are turned to naught.

Liquid Excrement Represents the Digested Food.

The liquid portion represents the digested and assimilated portion of the food and in a mature animal, as we have stated, there is, of course, given off in the liquid excrement just as many nutrients in soluble form as have been consumed in the food in insoluble condition. This portion represents an almost complete reduction of the food compounds to their constituent elements and requires therefore but very little activity in the soil to render them immediately capable of becoming an administrative agent for the immediate use of the next growing crop. The constituents of the liquid excrement represent from 50 to 100 per cent of the food nutrients consumed. How important it is, therefore, in the conservation of soil fertility that this liquid portion be very carefully saved. Not only is it valuable because of its own constituents, but because of its nature and physical composition as well, it will materially assist in the reduction of the undigested solid excrement which has at the same time defied the activities of the animal body for its reduction.

LABORATORY REPORT.

Distilling Oils.

Could you give me any information in regard to distilling wintergreen and cedar oil, and where I could purchase apparatus for doing the same? Is there any money in it on a small scale?

Missaukee Co.

A. M.

We think probably the best method of distilling wintergreen oil is the regular laboratory method, using a current of steam. If a considerable quantity of the material is at hand, a still, such as is used in the western part of the state for distilling peppermint oil may be used. Unless, however, there is a considerable quantity of this material we think it would not be economical to do this work on a small scale for commercial purposes.

Green Bone as a Fertilizer.

Could you tell me what amount and what kind of fertilizer there is in green cut bone and how to make best fertilizer of them? Are they good for cucumbers, melons and such?

Kent Co.

SUBSCRIBER.

Green cut bone, if ground to a condition of very fine meal is a very excellent fertilizer indeed, insofar as nitrogen and phosphoric acid are concerned. It will be found to contain from 13 to 15 per cent of phosphoric acid and from three to six per cent of nitrogen. It should, however, be very finely crushed or its use will be uneconomical.

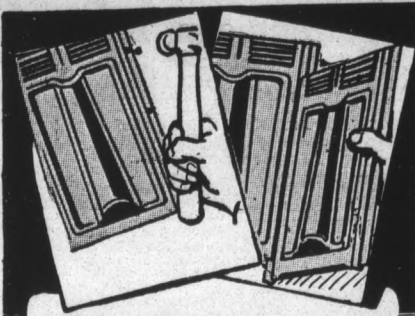
A very good way to handle such a product, if no means are at hand for properly crushing, is to break it into small pebble-like pieces and feed it to poultry. In this way it becomes modified by the digestive mechanism of the fowl, which makes it more available as a fertilizer. It is a good fertilizer for cucumbers, melons, etc. Of course, it should be remembered that bones contain no potash, and consequently if a complete fertilizer is desired potassium salts should be added.

Winter vs. Spring Wheat Bran.

What is the difference in feeding value between winter and spring wheat bran? Tuscola Co.

J. H.

There is not a great difference in the feeding value of winter wheat bran and spring wheat bran. In fact, on the average there would be no general difference recognized. The protein content, on the basis of 100 analyses, shows the average content to be about the same in either kind and there is no perceptible difference in their digestive characteristics.



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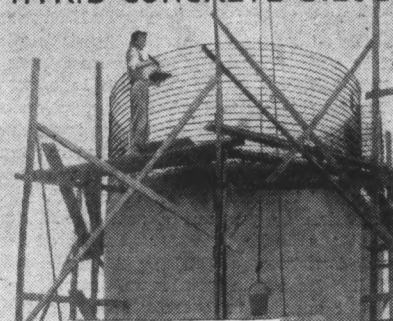
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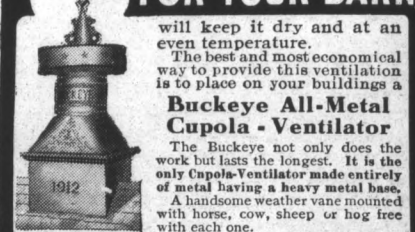
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DETROIT, MAY 24, 1913.

CURRENT COMMENT.

The Dowling bill City Milk Inspection, providing for the regulation and sale, inspection and production of milk and cream for the consumption of all incorporated cities within the state, which was made the subject of a comment during the early days of the legislative session, was one of the measures in which at least a percentage of Michigan Farmer readers were interested which failed of passage during the legislative session. Naturally the city boards of health, particularly that in the city of Detroit, were opposed to this bill, which would have in a way modified their control of the inspection of producers' plants and herds by including the state dairy and food commissioner and one practical dairyman, together with one member of the city board of health, in a commission to prepare a score card and regulations to be used for periods of two years' duration.

While from the producers' standpoint, this bill sought to establish only a reasonable degree of justice in milk inspection work, its defeat makes it incumbent upon the city boards of health to improve their inspection service by the employment of more competent inspectors than some of those who have served in that capacity in the past, and by modifying their regulations to an extent which will make them less of a hardship to producers without making them less effective in the protection of the city consumers of market milk. Organized producers will be in a position to bring about such a result provided they maintain at all times high ideals with regard to the quality of the milk which they are willing to furnish.

One much discussed item of legislation enacted by the Legislature in the recent session is commonly spoken of as the "Blue Sky" law. The purpose of this law is to protect innocent purchasers of stocks and bonds of industrial or other corporations which may be offered for sale in the state of Michigan. Under the terms of the law a commission composed of several state officers is designated to pass upon the validity of the stocks and bonds which it is desired to market within the state and brokers or bankers are prohibited under penalty from selling within the state any stocks or bonds not approved by this commission.

While the purpose of this law is an admirable one, it is a new proposition in legislation in Michigan and from the discussions of same which have occurred since the adjournment of the Legislature it appears that it may fall somewhat short of the purpose for which it was passed, in actual operation. It is stated by some competent men who have made a careful study of the proposition that the most notable defect of the law is a failure to

make its provisions apply to securities sold from points without the state by correspondence, so that unless the co-operation of the federal postal department can be secured, stocks and bonds which have not been passed upon favorably by this commission might still be sold by mail to Michigan customers from outside points.

Whether Michigan Farmer readers will be greatly interested in the provisions of this law or not is an open question, but if any should be solicited for the sale of stocks or bonds from outside points through the mails it would be well to remember that the so-called "Blue Sky" law does not apply to this kind of transaction, and that thorough investigation should be made before purchasing such securities. As a general proposition, farmers who have accumulated a surplus will not be interested in this class of securities, but a word of caution to the few who might be will not be out of place in connection with this brief comment upon the recently enacted "Blue Sky" law.

Other features of this law are objected to by the representatives of manufacturers in that it entails a delay in the making of loans which they have arranged for in order to give the stipulated time for the commission to pass upon the securities in question. The general reader, however, will not be interested in this feature of the law. This legislation is doubtless a beginning in the right direction toward eliminating "get-rich-quick" stock jobbing schemes from exploitation in Michigan, but it is still incumbent upon the innocent investor to make a careful investigation upon his own account before purchasing this class of securities.

On the first page of this issue will be found reproductions of scenes taken during the recently conducted alfalfa campaign in Allegan county. These illustrate something of the interest taken in these alfalfa campaigns in the counties where they have been inaugurated by the county agriculturists. A similar campaign on a less extensive scale will be conducted in a few other counties of the state in the near future. The same interest may well be taken in these other efforts along this line by the farmers of the sections of the state where they are conducted.

Some recently collected statistics with regard to the success of alfalfa in Michigan show that the crop has passed the experimental stage in practically all sections. Statistics covering a total of 701 seedlings with a total area of over 4,000 acres show that on certain types of soil as high as 72.7 per cent of all seedlings were a success, which were the figures for all gravelly soil, of which there is an abundance in the state. Of the total number of failures 34.4 per cent were attributed to poor preparation of the seed bed and 30.6 per cent to lack of inoculation.

Failures with alfalfa are annually becoming less frequent as the farmers of the state learn more about how to grow the crop. They are learning all the time and it is none too early for the average farmer to take an interest in this great forage crop and sow at least a small area of it upon his farm. The interest in this alfalfa campaign cannot be too general or too keen for the future good of Michigan agriculture.

In government Economic Conditions vs. Political Exigencies.

by party, which is the universal development of modern democracy, it is interesting to note the lack of constancy in the principles or policies of the party leaders in political parties which have existed for a long term of years under varying economic conditions. Whether these changes have been due to changed economic conditions or to political exigencies has often been a question of debate among students of political economy with the consensus of thoughtful opinion inclined to the latter view. These two propositions are, of course, often difficult to separate. For instance, while changed economic conditions no doubt had most to do in bringing up the matter of Canadian reciprocity two years ago, there is little doubt that political exigencies had a great deal to do with shaping the details of the plan. Apparently the same might be said of the tariff bill now under consideration by Congress if we accept at its face value the opinion of that brilliant Michigan student of political economy, Mr. Louis E. Rowley, who has been in Washington seeking to secure a modification of the proposed sugar schedule in the interest of the Michigan beet sugar industry. In an interview published in

the Washington Post of May 18, Mr. Rowley is quoted as saying:

"It is interesting to notice that while in 1896 the 'producing masses' were the especial object of the solicitude of the radical democracy, the 'consuming masses' are today absorbing the entire sympathetic consideration of the self-same militant element of the party. I should like to have somebody tell me why the 'producing masses' have been shunted and the 'consuming masses' given the exclusive right of way in the new democratic program for rejoining the frame of things, politically and economically, in this country. Certainly the 'producing masses' constitute a far larger element of our citizenship than they did in that hour of abysmal woe, when labor (or was it mankind?) was crucified on a cross of gold, and the democracy was pressed down by a crown of thorns that didn't come off for 16 long years."

"Is the remarkable reversal in the democratic attitude toward these two grand divisions of the 'masses' to be ascribed to new economic conditions, or to new political exigencies? Partly to both, I think, as the former certainly have changed, and political exigencies invariably change with them, as is attested by the fact that in the hard-times period in the nineties the whole democratic plea was for higher prices for agricultural products, while today the same party's plea is for lower prices for those products, in order to ameliorate the lot of the 'consuming masses' in the cities. As far as I can understand it, the present democratic contention seems to be that the American farmer is too prosperous, and that the first duty of the majority in Congress is to see to it that the intolerable extortions which he is practicing on the consumers of the country are stopped by free listing his products. It is in this way that the contents of the market baskets are to be cheapened, and every prospect turned to rose, at least as far as the consumer is concerned."

"It is a very funny business, and it grows all the funnier, in view of James J. Hill's statement, in his recent interview in The Post, that 'the one great and vital economic fact' that makes for the general industrial welfare of this country' is the prosperity of the farmer. But how can the farmer be prosperous if he cannot get fair prices for his products? And how can any sane democrat expect to see his party carry the country again upon the record made by a democratic Congress in so invidiously discriminating against the domestic agriculturist by removing every vestige of tariff protection from soil productions, while retaining 'competitive tariff' rates on manufactured goods?"

Apparently Mr. Rowley has reached the conclusion, in common with others who have studied the Underwood bill, that it is strictly a consumers' tariff. Notwithstanding the efforts which are being made to modify its terms, however, present indications are that this bill will be enacted into law with few changes, simply because the political exigencies of the present situation are permitted to outweigh the more important economic conditions, to which Mr. Rowley refers, by the leaders of his party who are at present in the saddle.

It is but another argument for taking the tariff out of politics by the establishment of a permanent non-partisan tariff commission through the medium of which tariff schedules might be gradually revised in accordance with changed economic conditions without regard to the political exigencies of any party or the leaders thereof who may be in a position to dictate political policies. True, this is an ideal difficult of actual attainment, but which might easily be much more nearly approached than is possible under the present system of tariff legislation.

The second bulletin Kalamazoo County Corn Club.

sent to members of the Juvenile Corn Club of Kalamazoo county deals with methods of preparing the soil and the early cultivation of the crop. This systematic follow-up work indicates that this contest will be made of exceptional educational value to the boys and girls participating. Regarding the progress of the organization, Mr. Cary A. Rowland, one of the three men in charge of the work mentioned in a previous comment, writes as follows:

Some time since, I sent you data as to the plan of the Kalamazoo County Juvenile Corn Club contest. We now enter the active season with an enrolled membership of 60 members. Great credit is due the secretary, Almond Stanley, of Mattawan, Mich., who, although only 13 years old, has handled the correspondence with all of these boys and girls. The county will be divided into sections, a local corn man will act as advisor in each section. During the season the county agent will visit the plot of each boy, accompanied by the local corn enthusiast. A series of three bulletins, the second of which I enclose, is sent each, besides the regular government bulletins.

HAPPENINGS OF THE WEEK.

National.

A statement by eight of the railroad companies entering Chicago to the newly created council committee of that city on

railroad terminals, leads to the belief that a plan will be effected for the abatement, to a considerable degree, of the smoke nuisance along the railroad lines inside the city limits. The plan contemplates the electrification of all railroads entering Chicago.

The National Association of Manufacturers are holding their annual meeting in Detroit this week.

Four Cornell students were drowned in Lake Cayuga, Sunday, when the canoe in which they were riding upset.

An abstract of the report by the Bureau of Social Hygiene, regarding conditions of vice in Greater New York, reveals startling facts on the traffic in Manhattan borough. It points out many seemingly respectable citizens who are financially interested in commercialized vice. It estimates, after a very careful canvas, that there are 15,000 women who are leading lives of shame in the one borough. The evil resulting from the public dance hall is shown; and the many ways in which the vice is organized and commercialized is pointed out. The report is a preliminary one and will form the basis for other bulletins dealing particularly with remedies for the social evil.

Stephen Dudley Field, of Stockbridge, Mass., an inventor of international fame, died at his home last Sunday at the age of 68. He is known as the father of the trolley car. Among his inventions are the quadruplex telegraph, the electric elevator, stock ticker, hotel annunciator and the police patrol telegraph. Cyrus Field, who laid the first Atlantic cable, was an uncle.

Last Sunday morning a fatal wreck occurred on the Erie railroad at Huntington, Ind. The train was running at a high rate of speed when the engine left the track, pulling with it a day coach and three Pullmans. Two persons were killed and 23 hurt.

An automobile was hit by an express train at Leavittsburg, O., Sunday, and four persons were killed.

The Petoskey & Chicago divisions of the Pere Marquette railway have been merged, with headquarters at Grand Rapids.

A manifesto has been issued inviting all nations to join in the celebration of the 100 years of peace between America and England. The celebration will be held in New York city.

Something of an innovation will be introduced at the coming state fair when the several state departments will display exhibits purporting to show the fair patrons the system employed by the different bureaus to carry on the state work of the people. Gov. Ferris has instructed the departments to this end.

Recent frosts have done Michigan fruit men extensive damage. In some sections of the fruit belt it is reported from different sources that perhaps one-half the crop of all fruits except late apples is gone. All across the southern portion of the state a similar condition prevails. Until the cold nights, the different varieties of tree fruits promised a heavy yield.

A co-operative organization that promises much to the grape industry of southwestern Michigan was affected recently at St. Joseph. It is to be known as the St. Joseph Fruit Exchange. This organization is the amalgamation of three old ones that have been annoying each other more or less because of rival interests. The new concern boasts a thousand members, which is about 75 per cent of the number of commercial grape growers of that section.

An interesting case is on in Massachusetts where William M. Wood, president of the American Woolen Company, otherwise known as the "Wool Trust," is charged with conspiring with others in planting dynamite during the 1912 strike of the woolen workers, for the purpose of gaining public sympathy for the company. On Monday of this week the state opened its side of the case in which it showed a line of evidence pointing strongly to the guilt of the defendant.

By agreeing to put the questions in dispute between the street car strikers in Cincinnati and the traction company, before an arbitration board, the strike has been called off and arrangements have been made to resume service.

Foreign.

Chinese authorities are using drastic means to blot out every semblance of the opium traffic. It is reported from Shanghai that in the province of Hunan soldiers set fire to a building where 100 Chinese gentry and farmers were gathered to discuss resistance to the imperial troops sent out to destroy the poppy crop, and 67 of the men were burned to death.

William Jennings Bryan, Secretary of State, is about to launch his first distinctive policy for international peace. The move contemplates the negotiation of treaties between the United States and all the civilized nations of the earth. His most original feature will be a temporary limitation upon armament and war preparations of disputing nations.

The controversy between this country and Japan is nearing a crisis. Governor Johnson, of California, has signed the alien land bill against which Japan has been protesting because of the provisions of the bill being considered an affront to the Japanese people. Secretary of State Bryan has replied to the protest, but the contents of his answer are unknown. It is believed that no action except the repealing of the law by the state of California will satisfy the Nippon government, and for this reason an expression of the attitude of Japan is awaited with anxiety.

An escort of Mexicans has arrived in Spain and called upon former President Diaz, of Mexico, for the purpose of inviting him to return to his country and again become a candidate for chief executive.

Reducing Distributing Costs.

(By DR. CLYDE L. KING.)

(In last week's issue Dr. King considered the question, "Can the wholesaler's commission be lowered and abuses prevented?" In this issue of The Farmer he continues the general discussion of reducing distributing costs by pointing out the ways in which attempts have been made to reduce or eliminate the retailer's charges.—Eds.)

II. Can Retailers' Profits be Reduced and Abuses Eliminated?

The situation as to the retailers of food products in the city can well be illustrated by the situation in Philadelphia. There are at the present time (1913) in this city about 490 chain stores. There are also 700 members of the Retail Grocers' Association. In addition to these two groups, there are, according to Boyd's Register, 4,169 independent grocers. As Dr. E. M. Patterson points out, "a fair statement of the situation, however, should include 10 per cent, or 200, of the 2,000 butchers and retail meat dealers, as at least that percentage of them carry some groceries as a side line. In addition, there are 258 delicatessen stores, all of which compete with the grocers, and 1,923 'variety stores,' a large number of which also compete in many lines." For purposes of comparison, the chain stores and association stores may be included in the same group. This makes 1,190 "chain" stores as compared with 6,550 "independent" stores. Comparing the three groups we find that of the total seven per cent are chain stores, 11 per cent are members of the Retail Grocers' Association, and 82 per cent are "independent."

It is clear that the maximum point to which prices can be boosted by the retailers in that fixed by a subsistence wage on the part of the small "independent" stores. That is, the possibility in upward prices to the consumer is fixed by the cost of keeping up the average small, inefficient store throughout the city. The chain stores, and it must be remembered that there are all kinds of chain stores, as a rule keep prices up almost to the level charged by the large number of small stores. No one assumes that the chain stores, as a whole, are charging a just price in the sense that they charge the lowest price that would give them a reasonable profit. For the chain stores to lower their prices further would mean the driving out of the small stores. It is clearly evident that these small independent stores are slowly wearing out, despite the fact that there are today, in New York City, about 11,000 of them.

The chain stores first became a vital factor in Philadelphia about 1895. Their success has been due chiefly (1) to their cash sales which make possible a quick turnover of the capital invested; (2) to the elimination of losses from bad bills; (3) to their ability to purchase their goods in large quantities from the jobber or direct from the manufacturer; (4) to economies in distribution within the city, and (5) economies in management. The principle of retailing in the future will probably be to keep a limited variety of goods which can be turned over from day to day, with a minimum of overhead charges, small rents, knowledge of local customs, and few bad debts. That is, the small, independent corner groceryman, if he fails, does so not because he is small, but because he can not avail himself of the economies practiced by chain stores.

One of the most potent factors making for this is the fact that so many goods are being standardized as to quality and price; for on many such goods the price is fixed by manufacturers' agreements. By standardized goods I mean soups, many varieties of canned products and many kinds of breakfast foods which are known to all housekeepers. The inevitable result of this standardization in price and quality is the temptation for the small storeman to boost prices on perishable products, that is, on just those in which the farmer is most directly interested. To increase profits and get the maximum returns, the retailer is also under temptation to sell articles at underweight, to make over-charges, to misrepresent, and to pack falsely.

Proposed Methods of Eliminating Abuses of Retailers.

There are four schemes for eliminating the abuses of retailers and lowering the costs that now go to them as profits. First, public ownership and operation of retail stores; second, co-operative stores;

third, price regulation; fourth, readjustment of existing transportation and distribution agencies so that the unnecessary handling by middlemen, and all unnecessary cartage, may be eliminated, economies for retailers affected, and information as to prices of foodstuffs and profits disseminated, so that the consumer can guard himself against exploitation and abuse.

Public Ownership.—Public ownership is urged by some as the only solution of the problem. It is held that through public ownership only can the desire for profits be taken away, and there substituted for it a desire for social approbation. This scheme, however, is as yet little more than a "wish," and that on the part of but a few of our people. The cost of the venture alone puts it out of the question for the time being.

Co-operative Stores.—The formation of co-operative stores is a second proposal. I refer here to real co-operative stores, owned and operated by the consumers, not the so-called co-operative stores recently adopted by certain corporations for their employees. Co-operative stores, owned and operated by the consumers, have back of them years of success, expressed in millions of dollars of dividends.

In Great Britain alone there are today 2,700,000 members of such concerns, or, counting them as heads of families, one-fourth of the total population. Germany follows with 1,600,000; France, one-half as many; Austria, 500,000; Russia, 300,000, and in Italy and Switzerland, a quarter of a million each. Denmark, Sweden, Belgium and Finland have smaller numbers, although a larger percentage of the population.

Such stores in America have thus far had a rather gloomy history. Where a score have started, one has succeeded. The probable reason for the failure of the Farmers' Alliance stores, however, was that they were organizations of country buyers and rural dwellers, all of whom have a poorly developed feeling of class solidarity and, therefore, little loyalty to a store because it was their own. It is to be noted, however, that the co-operative store plan ameliorates conditions only for its members. Save in so far as such stores can become numerous enough to affect competitive conditions in the average city store, they will be of no advantage to those non-members who must, through need, avail themselves of the lowest prices.

Price Regulation.—A third group advocates a price-fixing industrial commission with power to fix food prices at a point that will bring reasonable returns on the investment, and with power to prevent abuses in weights, measures and quality. It is proposed that this commission be endowed with powers similar to those exercised by the Interstate Commerce and Public Service Commissions over the rates and service of a common carrier. The legal, as well as the practical, results of this proposal, however, must await greater consolidation of the stores into large competing units; for no commission could legally fix a price to be charged in each of the stores now existing in Philadelphia, for instance, and have that a reasonable price.

Should the food retailing business of our cities be divided up in the future, as it promises to be, among a very few competing chain companies, a price-fixing commission will not only be desirable, but essential to the protection of the public. Nothing can hasten this more rapidly than the creation of a chain of co-operative stores, for, since the economies of the chain store are so evidently greater than the economies of the small independent groceryman, the injection of a chain of co-operative stores would inevitably mean the driving out of the small, independent groceryman, and hasten the day when the consumers would be depending upon the will of a small number of monopolies. But as schemes of price regulation of foodstuffs by an industrial commission offer little hope of immediate adoption, they can not be looked to as a remedial agent for present conditions.

Readjustment of Transportation and Distribution Agencies.—The fourth plan is to readjust existing transportation and distribution agencies so that all unnecessary handling and cartage may be eliminated, and all the information disseminated essential to bringing a well-informed producer and a well-informed consumer as close together as possible.

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Cross Lawn Farms, Gustavus, Trumbull Co., O., Tuesday, June 4, '13, 10 a.m.

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10 Reg. Guernsey Bulls, ready for service. Large Yorkshire hogs, the best yet. Come or write. JOHN EBELES, R. 10, Holland, Mich.

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

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Prince Sarcastic—

Fine in form and breeding. Beautifully marked. Sure to please you.

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HATCH HERD HOLSTEINS—Choice sires from AHO dams. Reasonable prices. HATCH HERD, Ypsilanti, Michigan.

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

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.

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O. I. C.—Big growthy type, last fall gilts and this spring farrow to offer. Very good stock. Scott No. 1 head of herd. Farm 1/2 mile west of depot. OTTO B. SCHULZE, Nashville, Mich.

O. I. C.—Serviceable boars all sold. Sows bred for August farrow. GEO. P. ANDREWS, Danville, Ingham Co., Mich.

O. I. C. SWINE Write me for price on Spring Pigs, pairs and trios, not akin. Have a number of service males of good type. Write me describing of your wants. A. J. GORDEN, R. No. 2 Dorr, Mich.

CHESTER WHITES—SONS AND DAUGHTERS OF CHAMPIONS and GRAND CHAMPIONS. Spring pigs now weaned and ready for shipment. BONNIE BRAE FARM, Algonac, Michigan.

O. I. C's—all sold. Orders booked for April and May pigs of the choicest breeding. C. J. THOMPSON, Rockford, Michigan

O. I. C's—Bred sows, March pigs pairs and trios. Buff Rock Eggs \$150 per 15. FRED NICKEL, R. 1, Monroe, Michigan.

O. I. C's—All ages, growthy and large. Males ready, 100 to select from. Attractive prices on young stock. H. H. JUMP, Munith, Mich.

O. I. C.—March pigs ready to ship, the long growthy kind with plenty of bone, at farmers prices. A. NEWMAN, R. 1, Mariette, Mich.

DUROC-JERSEYS—Fall and Spring boars from prize-winning strains. Sows all ages. SPECIAL BARGAIN in summer pigs. Brookwater Farm, R. F. D. No. 7, Ann Arbor, Mich.

DUROC JERSEYS—Fall Gilts bred or open. Spring pigs pairs not akin. F. J. DRODT, R. No. 1, Monroe, Michigan.

MALES ALL SOLD BUT ONE—Fancy gilt for sale. JOHN McNICOLL, Station A, Bay City, Mich. Route 4, Box 51.

DUROC JERSEYS—BRED GILTS FOR SALE. CAREY U. EDMONDS, Hastings, Michigan.

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

Butler's Big Bone Poland Chinas We have a few nice fall boars, also some big sows bred for fall farrow. Our hogs are all cholera proof. J. C. BUTLER, Portland, Michigan.

Big Type Poland China Pigs at close prices. Eggs Rocks, \$1 per 15. ROBERT NEVE, Pierson, Mich.

Large Type P. C.—Largest in Michigan. Bred gilts all sold, have some good Sept. and Oct. pigs that have size, bone and quality. Write your wants or come and see. Expenses paid if not as represented. Free delivery. W. E. Livingston, Parma, Mich.

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

P. C. BOARS AND SOWS—large type, sired by Expansion. A. A. WOOD & SON, Salline, Michigan.

LARGE Yorkshires—Choice breeding stock, all ages, not akin, from State Fair prize-winners. Pedigree furnished. W. C. COOK, R. 42 Box 22, Ada, Mich.

Lillie Farmstead YORKSHIRES Spring bred gilts all sold. Gilts bred for next August farrow. September pigs either sex, pairs and trios not akin. Orders booked for spring pigs. COLON C. LILLIE, Coopersville, Mich.

Markets.

GRAINS AND SEEDS.

May 21, 1913.

Wheat.—Throughout the past week the wheat market has been more satisfactory to sellers than to buyers. The foreign demand continues to be the controlling factor, although during the past week news from this side has been more encouraging to those who want higher prices, than for some weeks past. It is stated that foreigners will demand about 7,000,000 bushels per week to satisfy their wants until the new crop is harvested. Offerings from South America are lighter than they have been and the market there is much firmer. Both France and Bulgaria report their crops in rather poor condition. In Canada the situation has also taken a bullish turn, reports from Manitoba indicating a lack of moisture and cold weather, and unless a change occurs soon for the better an inferior crop will be the result. In the states, crop conditions are very favorable. Every important wheat state reports promise of a bumper crop. There is, however, unconfirmed news from Oklahoma that the crop there will not be as large as estimated earlier, but this report is yet to be verified. The United States visible supply decreased over two and a half million bushels. One year ago the price for No. 2 red wheat was \$1.15 per bu. Detroit quotations for the past week are:

	No. 2	No. 1
Thursday	1.05½	1.05½
Friday	1.05½	1.05½
Saturday	1.07	1.06
Monday	1.07½	1.06½
Tuesday	1.07½	1.06½
Wednesday	1.08	1.07

Chicago, (May 20).—No. 2 red, \$1.06@1.07½; July, 88½c; Sept., 88½c; Dec., 90½c per bu.

New York, (May 20).—May, 99½c; July 97½c; Sept., 95½c per bu.

Corn.—This market has developed additional strength during the week. The change is partially due to the better price being paid for wheat. But an equally prominent factor is found in reports from western states, Iowa in particular, where planting has been delayed and shipments of old corn detained. Statistics indicate, however, that offerings throughout the country have been slightly heavier than in the previous week, but not enough to counteract the bullish factors. One year ago No. 3 corn was quoted on the local market at 77½c per bu. Quotations for the past week are as follows:

	No. 3	No. 3
	Corn.	Yellow.
Thursday	57	59
Friday	57	59
Saturday	57	59
Monday	57½	59½
Tuesday	57½	59½
Wednesday	58	60

Chicago, (May 20).—No. 2 corn, 57½@57¾c; No. 2 yellow, 57½@58c; July, 56½c; Sept., 57½c per bu.

Oats.—Prices in this division of the grain market continue to rise above the advanced quotations of last week. The improved market appears to be due to a large demand which is the outgrowth of the reasonable prices for which this cereal has been selling during the past winter. Besides, there is scarcely any oats in storage in the local elevators. The growing crop was benefited by the recent rains which constituted the main bearish feature of the trade. One year ago standard oats were quoted at 56c per bu. on the local market. Quotations for the past week are:

	Standard.	No. 3
		White.
Thursday	40	39
Friday	40	39
Saturday	40½	39½
Monday	41	40
Tuesday	41½	40½
Wednesday	41½	40½

Chicago, (May 20).—No. 2 white oats, 40c; standard, 39½c; May, 38½c; July, 36½c; Sept., 36c per bu.

Beans.—The trade in this market is merely nominal and the board has not seen fit to change the quotations published the past two weeks. They are for immediate, prompt and May shipment, \$2.05 per bu., and for June, \$2.10 per bu., at country points.

Chicago, (May 20).—Pea beans are quoted higher, while the kidney varieties remain steady. Quotations are: Pea beans, hand-picked, fancy, \$2.42½@2.45; choice, \$2.40; prime, \$2.30; red kidneys, \$2; white kidneys, \$2.50 per bu.

Clover Seed.—Market is lifeless and quotations are merely nominal, with prime spot and alsike both quoted at \$13.25 per bu.

Toledo, (May 20).—Both cash and October clover seed are off from last week's prices. Cash is now quoted at \$13.60 and October \$7.97½ per bu. Alsike is quoted at \$9 for October offerings.

Timothy Seed.—Nothing is being done on this market with the nominal quotations at \$1.75 per bu. for prime spot.

Toledo, (May 20).—Timothy seed shows higher prices here. Prompt, cash and May shipments are quoted at \$2.05 and September \$2.15 per bu.

Rye.—This cereal lost a cent in price as compared with a week ago. There is practically nothing doing in the market. No. 2 is quoted at 63½c per bu. At Chicago the same grade shows a cent advance and is now quoted at 63c per bu.

Barley.—While Chicago's price shows a 1c advance and is now quoted at 48@68c per bu., Milwaukee's trade remains steady at 52@68c per bu., according to quality.

FLOUR AND FEEDS.

Flour.—Jobbing lots in ½ paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent, \$5.70; second, \$5.20; straight, \$5; spring patent, \$5.10; rye flour, \$4.60 per bbl.

Feed.—Detroit jobbing prices in 100-lb. sacks are as follows: Bran, \$21; coarse middlings, \$21; fine middlings, \$27; cracked corn, \$25; coarse corn meal, \$22.50; corn and oat chop, \$21 per ton.

Hay.—All grades rule steady with last week. Carlots on track at Detroit are: No. 1 timothy, \$14.50@15; No. 2, \$12@13; light mixed, \$13.50@14; No. 1 mixed, \$12@13 per ton.

Chicago.—Both timothy and clover are advanced since last week. Choice timothy, \$18@18.50 per ton; No. 1, \$15.50@16.50; No. 2 and No. 1 mixed, \$13.50@14.50; No. 3 and No. 2 mixed, \$10.50@12; clover, \$9@11; alfalfa, choice, \$16@17; do. No. 1, \$14@15; do. No. 2, \$11@13 per ton.

Straw.—Steady. Carlot prices on wheat and oat straw on Detroit market are \$8.50 per ton, rye straw, \$9@10 per ton.

Chicago.—Higher. Rye straw, \$9@9.50; oat, \$7@7.50; wheat, \$6.50@7 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—Creameries are quoted a trifle higher in all markets on the strength of the ½c advance at Elgin on Monday, although apparently there is little in the situation to warrant higher values. Other kinds continue unchanged. Detroit jobbing prices rule as follows: Fancy creamery, 28½c; firsts, 27½c; dairy, 22c; packing stock, 20c per lb.

Elgin.—Market firm at 28½c.

Chicago.—This market is quiet with storage men inclined to hold back because of the attempt on the part of dealers to follow the advance at Elgin. Receipts liberal, while the general demand is only moderate. Quotations are: Extra creamery, 28½c; extra firsts, 27½c; firsts, 26½c; seconds, 25@25½c; dairy extras, 26c; firsts, 25c; seconds, 24c; packing stock, 12@22c as to quality.

New York.—Steady, with practically no change in values. Quotations: Creamery extras, 28½@29c; firsts, 27½@28½c; seconds, 26½@27c; state dairy, finest, 28@28½c; good to prime, 27@27½c; common to fair, 25@26½c; packing, 21½@23c as to quality.

Eggs.—Desirable qualities continue in active demand at prices slightly in advance of recent quotations, but ordinary stock is harder to move. In the local market values show another fractional advance, current offerings, candled, being quoted at 19½c per dozen.

Chicago.—The demand continues equal to the supply of good eggs, even with prices slightly higher than a week ago. Miscellaneous receipts, cases included, are quoted at 16½@18½c; do., cases returned, 16@18c; ordinary firsts, 16½@17½c; firsts, 18½@18½c; storage packed, firsts, 19@19½c per dozen.

New York.—Unchanged; good grades steady. Fresh gathered extras, 22½@23c; fresh gathered storage packed, firsts, 21@22c; western gathered, whites, 20@22½c.

Poultry.—Chickens declined at this week's opening under the influence of fairly liberal receipts from the west. All other kinds steady and unchanged. Quotations are: Live.—Broilers, 30@32c; hens 17@17½c; No. 2 hens, 13@15c; old roosters, 13@17c; turkeys, 19@20c; geese, 14@14½c; ducks, 18@20c per pound.

Chicago.—The rather limited supply at this week's opening encountered a very moderate demand, thus preventing any marked change in values. Quotations on live are: Turkeys, good weight, 15c; others, 10c; fowls, good, 15½c; spring chickens, 30@32c; ducks, 15c; geese, full feathered, 9c; do., plucked, 7@8c per lb; guinea hens, \$4 per dozen.

Cheese.—Steady. Wholesale lots, Michigan flats, new, 13½@14c; old, 16½@17c; New York flats, new, 14½@15c; old, 17@17½c; brick cream, 13½@14c; limburger, 18@19c.

Veal.—Steady; trading not active.

Chicago.—Few on sale and little call for them. Fair to choice, 80@110-lbs., 12@12½c; extra fancy stock, 13c; fair to good chunky, 11½@12c.

FRUITS AND VEGETABLES.

Apples.—This fruit is firm with prices higher. Movement is better than it has been any time this year. Detroit quotations are: Fancy, per bbl., \$2.50@4; ordinary, 75c@1.50 per bbl.

Chicago.—The best grades of apples are firm at steady values. Standard winter varieties, \$2@4.25 per bbl.

Potatoes.—Those who have potatoes to sell are now hopeful that they will profit by waiting. Most growers have disposed of their holdings and the southern crop of new potatoes has been cut short in many places by frost so that the change to better figures is a matter of supply and demand. Local prices are up 5c. Michigan stock in car lots, 45@50c per bushel.

Chicago.—Decided firmness pervades this market again, due to healthy demand and moderate receipts which are five cars short of those of last week. Quotations are about 5c higher than a week ago. Fancy Michigan stock, 48@53c per bu.; best Wisconsin, 45@53c; Minnesota, 45@50c per bu.

WOOL.

Boston.—There is nothing new to report regarding conditions in the wool market. About the only buyers out in the field are representatives of a few of the manufacturing concerns who need raw material for filling immediate orders. There are no speculative features in the market whatever. The operators are naturally making the most of the present news in order to secure wool from the

farmers at the lowest price it can be bought and they undoubtedly feel that the waiting game will be the most effective way of accomplishing this end, while at the same time they will not be placing themselves in a position to lose. On the other hand, farmers do not appear to be so easily scared as in former years, which attitude will aid them to some extent in meeting the lower price cry of the buyers.

GRAND RAPIDS.

The egg market is a trifle higher, dealers paying 17½c this week. Dairy butter is unchanged. Tuesday's market on the Island was the biggest of the season, with 250 loads of farm, garden and orchard products in sight. Potatoes were 5c higher, bringing 45c. Asparagus ranged from 85c@1.25; pieplant, 40c; spinach, 70c; potatoes, 45c; old apples, \$1. Potatoes are higher this week. Hay continues at \$11@14. Grain prices at the mills are: Wheat, \$1.04; oats, 40c; rye, 45c; corn, 59c; beans, \$1.50. In live poultry, fowls are worth 14@15c.

DETROIT RETAIL PRICES.

On the Eastern Market.—This market is about normal for the season, there being a fair representation of buyers and a reasonable number of wagons present on Tuesday morning. Prices for old crops are advancing, while those for this year's products are on the decline. Apples are moving well at present and Steele Reds have sold on the market as high as \$1.75 per bu. the past week. Prices rule from this down to \$1, and less, for poor grades. Potatoes have also advanced and a good grade sold Tuesday at 65c per bu. Carrots, 40@50c; head lettuce, 75c per basket; rhubarb, (green), 12@15c; radishes, seven bunches for 25c. Parsnips were offered quite liberally at 90c for 15 boxes. Eggs, 24c per doz. Hay is quoted at \$16@18c per ton for good timothy.

THE LIVE STOCK MARKETS.

Buffalo.

May 19, 1913.

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

Receipts of stock here today as follows: Cattle, 160 cars; hogs, 95 double decks; sheep and lambs, 70 double decks; calves 1600 head.

With 160 cars of cattle on our market here today, and 22,000 reported in Chicago, we will say that there was fully 60 loads of the best cattle on the market today, more than has been shown here at any one time this year. All cattle weighing above 1150 lbs., selling from 10@20c per cwt. lower than last week. The butcher grades sold steady to a shade lower.

We quote: Best 1350 to 1500-lb. steers, \$8.25@8.60; good to prime 1100 to 1200-lb. do., \$7.75@8.25; good to prime, 1100 to 1200-lb. do., \$7.50@7.75; coarse plainish 1100 to 1200-lb. do., \$7@7.50; medium butcher steers, 1000 to 1100, \$7.50@7.75; butcher steers, 950 to 1000, \$7.25@7.75; light butcher steers, \$7@7.25; best fat cows, \$6@7; butcher cows, \$5@5.75; light do., \$4.50@5; trimmers, \$3.50@4; best fat heifers, \$7.25@8; medium do., \$6.75@7.50; light do., \$6.25@6.50; stock heifers, \$6@6.50; best feeding steers, dehorned, \$7.50@7.75; light common stockers, \$6@6.50; prime export bulls, \$7.40@7.50; best butcher bulls, \$7@7.25; bologna bulls, \$6.75@7.25; stock bulls, \$5.50@6; best milkers and springers, \$7.50@10; common kind do., \$4@6.00.

Our hog receipts were moderate today, about 95 double decks. A good demand and trade was strong at Saturday's best prices. All grades of good hogs selling at \$8.90; a few selected pigs up to \$9, but sales in any class above \$8.90 were very scarce. Roughs, \$7.50@7.75; stags, \$6.50@7.25. Market closed strong and with a good clearance we should have a good trade the balance of the week.

The sheep and lamb market was slow today, with prices about the same as the close of last week; most of the choice handy lambs selling from \$7.75@8; lambs weighing 85@90 lbs. very slow, \$7.25@7.50. Best wethers selling mostly at \$6@6.15; ewes, \$5@5.50, owing to weight and quality. Look for about steady prices the balance of the week.

We quote: Choice lambs, \$7.90@8; cull to fair do., \$4@7.50; yearlings, \$6.50@7; bucks, \$3@4.50; wethers, \$6@6.15; handy ewes, \$5@5.50; heavy do., \$5@5.25; cull sheep, \$3@4; veals, choice to extra, \$9.50@10; fair to good, \$7@9; heavy calves, \$4.50@6.

Chicago.

May 19, 1913.

Cattle. Hogs. Sheep.
Received today 22,000 43,000 22,000
Same day last year. 19,982 55,932 22,937
Received last week. 39,006 131,594 74,408
Same week last year. 31,262 144,981 79,227

This is a blue Monday in the steer market, with scarcely anything doing up to a rather late hour, and sellers calling prices 10@15c lower, but butcher stock is fairly animated at steady values. Despite the large receipts of hogs, prices are strong, with a lively general demand. Hogs received last week averaged 242 lbs., compared with 239 lbs. a week earlier, 245 lbs. a fortnight ago, 235 lbs. one year ago, 240 lbs. two years ago and 237 lbs. three years ago. There is no particular change in the market for desirable sheep and lambs, but the other kinds look weak, with a poor demand. Receipts include about 900 head of California spring lambs, which were offered on the market, and a double-deck of Kentucky springs consigned direct to a packing firm.

Cattle prices firmed up and were largely somewhat higher for a few days last week on account of the decreased receipts, but packers objected to paying advances, and later the improvement disappeared. It does not require a great many cattle these days to go around,

cheap eggs and vegetables being largely substituted for dear beef, and demand runs strongest on the medium class of steers and female cattle, only a few of the higher priced steers being needed. The bulk of the steers received sold for \$7.60@8.60, the commoner lots of light-weights going at \$6.90@7.75 and the choicer heavy beefs fetching \$8.50@9, but the only sale at \$9 consisted of 31 fancy 1,560-lb. Herefords. Medium grade steers sold at \$7.80@8.20 and good lots at \$8.25 and upward, with medium to prime yearlings taken at \$8@8.65. Butcher stock, as usual, was more active than steers, with good purchases of cows and heifers at \$5.10@8.50, while cutters went at \$4.45@5, canners at \$3.40@4.40 and bulls at \$5.40@7.35. The traffic in stockers and feeders was restricted by the limited offerings of desirable steers and the competition from packers, who wanted the fleshy feeders. Stock steers sold at \$5.90@7.75 for inferior to choice lots, and feeders carrying much weight brought \$7.20@8, a sale being made of some choice 1,085-lb. feeders at \$8, but very little was done above \$7.85, and the great bulk of the trading was well below that figure. Most farmers were too busy planting to pay much attention to restocking their pastures, and there was a prevailing opinion that cattle were held much too high to render the feeding proposition a safe one. The best demand centered in good light stockers, with desirable lots going at \$7.25@7.60. Limited numbers of stock and feeding cows and heifers were on sale at \$5.75@6.50. Calves sold freely during the week at \$4.50@9.35, the best prices being paid early. Milkens and springers had a moderate sale at \$6@120 per head, common cows going for beef.

Hogs were marketed in moderate numbers last week after Monday, when the receipts amounted to 45,032 head, and some rallies in prices followed that day's decline. As has been the case for many weeks, the weak feature was the poor eastern shipping demand, eastern packers receiving a large share of their supplies from their home territory, and the Chicago packers were opposed to placing the market on a higher level. The best shipping demand centered, as usual, in choice light weights, and as a general rule the market was apt to show weakness after this demand was satisfied. Heavy packing hogs sold the lowest, and were the slowest to advance, while light hogs invariably sold the highest, with medium butcher weights the next best sellers, although strong weight pigs, often classed as light hogs, sold near the top figures. Local speculators took a hand in the game and were liberal operators at times. Hogs continue to average well in quality, and the bulk of the sales are not far from the daily top quotations, with prices much higher than in former years, 1910 excepted. The week closed with hogs selling at \$8@8.62½, prices being 5@7½c higher than a week earlier, while pigs brought \$6.50@8.40, boars \$3.50@4.50, stags at \$8.50@8.85 and throwout packing sows at \$7.60@8.

Sheep and lambs had a fairly large demand on local and shipping account the greater part of last week, and the decreased receipts helped to strengthen prices, but subsequently there was a setback, with sharp declines, especially in sheep and yearlings. Part of the time finished stock was scarce, with the general quality fair to good, and the offerings included a better representation of yearlings than usual. Lambs were invariably the favorites and brought the usual liberal premiums over yearlings, the great bulk of the offerings coming shorn. Woolled stock was not in favor with buyers. Lambs made up the great bulk of the offerings, and a few spring lambs arrived from Louisville consigned to packers. Closing prices were not materially different from those of a week earlier, clipped flocks selling as follows: Lambs, \$5@7.75; yearlings, \$6.15@6.85; wethers, \$5.50@6.35; ewes, \$3.25@6.15; bucks, \$4.50@5.25. The southern spring lambs are moving, and in a week or a fortnight Chicago packers will be receiving plenty of lambs direct from Louisville, some having arrived already.

CROP AND MARKET NOTES.

Newaygo Co., May 14.—April and May so far have been quite windy and dry. So far in May has been unusually cool, with a hard freeze May 9 and 10, which damaged all early fruits to a great extent; early strawberries all gone, but late ones promise a full crop. Farmers are busy plowing and getting the ground in shape for corn and late potatoes. Wheat, rye and oats looking good; also pastures. Potatoes, 32c; eggs, 17c; butter-fat, 30c; chickens, 13c.

Livingston Co., May 13.—The weather has been very dry for this time of the year and pastures have not started enough so that stock can get enough to keep them yet. No corn planted yet. Farmers will wait for rain before planting as the ground is very dry. There will be about the usual acreage of beans sown. Heavy frosts last week cut clover quite badly in places and probably injured fruit to some extent. Before the frost the indications were for one of the largest fruit crops in years. Potatoes are a drug on the market, some being sold for 25c per bushel. The bean market is very inactive for this season of the year.

Ohio.

Carroll Co., May 15.—Yesterday and today we got a few nice showers of rain. Last week we had a few very frosty mornings and nights, which killed most of the fruit. Most farmers have their corn planted. These showers will make things grow as the ground was very dry. Eggs, 16c; butter, 24c.

Wool dealers have reduced the buying prices to a free trade basis on the expectation that the new tariff bill placing wool on the free list will become a law.

THIS IS THE FIRST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

May 15, 1913.

Cattle.

Receipts, 907. Opening slow and 10c lower; good prime steers dull. We quote: Extra dry-fed steers and heifers, \$8; steers and heifers, 1000 to 1200, \$7.50@7.75; do. 800 to 1000, \$7@7.50; do. that are fat, 500 to 700, \$6.50@7; choice fat cows, \$6@6.50; good do., \$5.75@6.25; common do., \$5@5.25; canners, \$3.75@4.25; choice heavy bulls, \$6.50@7; fair to good bolognas, bulls, \$5.75@6.25; stock bulls, \$5@6; choice feeding steers, 800 to 1000, \$7@7.50; fair do., 800 to 1000, \$6.75@7; choice stockers, 500 to 700, \$6.50@7; fair stockers, 500 to 700, \$6@6.50; stock heifers, \$5@5.50; milkers, large, young, medium age, \$6@7; common milkers, \$3.50@4.

Roe Com. Co. sold Jones 3 cows av 873 at \$5, 2 do av 780 at \$5.50; to Hammond, S. & Co. 2 canners av 655 at \$4.25, 4 cows av 955 at \$5.75, 3 do av 907 at \$4.50; to Sullivan P. Co. 2 bulls av 1370 at \$6.75, 9 steers av 824 at \$7.25; to Rattkowsky 2 heifers av 465 at \$5.50, 1 bull weighing 440 at \$6, 1 cow weighing 760 at \$5; to Donovan 2 do av 850 at \$5; to Kamman B. Co. 4 butchers av 737 at \$6.50, 1 heifer weighing 570 at \$6, 1 do weighing 480 at \$6; to Donovan 13 stockers av 454 at \$5.75; to Sullivan P. Co. 4 cows av 875 at \$6, 1 do weighing 940 at \$5; to Jones 1 bull weighing 500 at \$5.50.

Bishop, B. & H. sold Hammond, S. & Co. 18 steers av 920 at \$7.35, 7 butchers av 814 at \$6.50, 1 bull weighing 1060 at \$6.25, 1 do weighing 880 at \$6.25, 1 steer weighing 690 at \$6.75; to Sullivan P. Co. 3 cows and bulls av 1003 at \$5.85, 3 cows av 1033 at \$5.50, 2 bulls av 1005 at \$6, 2 do av 940 at \$6, 3 cows av 1040 at \$5.50, 3 do av 917 at \$6, 4 steers av 905 at \$7.25, 2 cows av 965 at \$5.75; to Rattkowsky 4 heifers av 645 at \$6; to Chambers 13 feeders av 938 at \$7.50, 12 do av 870 at \$7.25; to Parker, W. & Co. 27 steers av 1081 at \$7.40; to Nagle P. Co. 5 do av 1110 at \$7.50, 11 do av 1216 at \$8; to Hammond, S. & Co. 6 cows av 1036 at \$5.75, 1 bull weighing 780 at \$6, 2 do av 1575 at \$6.65, 1 do weighing 1520 at \$6.50, 1 steer weighing 790 at \$7, 4 do av 940 at \$7.25, 1 cow weighing 970 at \$4; to Sullivan P. Co. 3 do av 1007 at \$6.15, 2 do av 1240 at \$4.25, 9 do av 966 at \$6.10, 5 steers av 846 at \$7.25, 1 bull weighing 1640 at \$6.50.

Spicer & R. sold Mason B. Co. 11 steers av 1008 at \$7.60, 1 bull weighing 1300 at \$7; to Sullivan P. Co. 3 cows av 1057 at \$5.25, 2 do av 1370 at \$6.50, 2 steers av 910 at \$7.40; to Hammond, S. & Co. 22 do av 1040 at \$8, 2 cows av 1030 at \$7, 1 do weighing 1120 at \$5, 25 steers av 1030 at \$5.75, 6 do av 860 at \$7.50; to Rattkowsky 2 cows av 1210 at \$6.25; to Laboe 3 steers av 1025 at \$7.50, 6 do av 1123 at \$7.50; to Kull 3 bulls av 950 at \$6.25, 1 cow weighing 920 at \$4.50, 14 steers av 811 at \$7.20, 2 do av 695 at \$7.20, 2 bulls av 400 at \$5.50; to Jones 11 stockers av 442 at \$6.

Haley & M. sold Jones 1 heifer weighing 580 at \$5, 2 stockers av 655 at \$5.50; to Breitenbeck 2 cows av 1070 at \$5.50, 1 do weighing 890 at \$4.25; to Kamman B. Co. 4 butchers av 885 at \$6.40, 6 steers av 866 at \$7.55, 1 do weighing 710 at \$6.50, 3 do av 823 at \$7.50; to Newton B. Co. 4 cows av 1062 at \$5.50, 8 do av 1044 at \$6, 1 do weighing 1170 at \$4.50; to Bresnahan 4 steers av 667 at \$7.50.

Weeks sold Heinrich 15 steers av 931 at \$7.60.

Lowenstein sold Horne 21 cows av 956 at \$5.60.

Same sold Bresnahan 1 bull weighing 1300 at \$6.25, 1 heifer weighing 700 at \$6.50.

Groff sold Thompson 1 cow weighing 600 at \$4, 1 do weighing 750 at \$5.25.

Veal Calves.

Receipts, 933. Market steady at last week's and Wednesday's prices. Best, \$9 @9.25; others, \$4.50@8.50; milch cows and springers dull and lower.

Spicer & R. sold Applebaum 12 av 140 at \$9.25, 4 av 135 at \$8.50, 5 av 150 at \$9; to Newton B. Co. 8 av 150 at \$9, 1 weighing 160 at \$9.25; to Mich. B. Co. 5 av 125 at \$8.75.

Bishop, B. & H. sold Nagle P. Co. 3 av 125 at \$8.50; to Thompson Bros. 3 av 140 at \$9, 1 weighing 100 at \$7, 18 av 130 at \$8.50; to Goose 13 av 135 at \$9; to Newton B. Co. 4 av 125 at \$9, 3 av 110 at \$7; to Hammond, S. & Co. 3 av 165 at \$9.50, 31 av 130 at \$8.75; to Mich. B. Co. 14 av 130 at \$8.75; to Sullivan P. Co. 3 av 130 at \$9; to Parker, W. & Co. 36 av 125 at \$7.75, 25 av 135 at \$8.50, 18 av 125 at \$8; to Nagle P. Co. 27 av 135 at \$8.75; to Burnstone 10 av 142 at \$9, 2 av 105 at \$7, 11 av 140 at \$9; to McGuire 9 av 155 at \$9.25; to Sullivan P. Co. 17 av 140 at \$8; to Goose 9 av 150 at \$9, 13 av 135 at \$8.75, 35 av 145 at \$9; to McGuire 21 av 140 at \$8.75.

Roe Com. Co. sold Goose 19 av 145 at \$9, 12 av 135 at \$9, 8 av 125 at \$9, 3 av 155 at \$5; to Hammond, S. & Co. 6 av 145 at \$9; to Mich. B. Co. 21 av 130 at \$8.25, 32 av 135 at \$8.75; to Barlage 11 av 165 at \$9.

Lewis sold Newton B. Co. 6 av 155 at \$9.

Haddrell & C. sold Burnstone 3 av 140 at \$7, 20 av 145 at \$9.25.

Haley & M. sold Newton B. Co. 3 av 100 at \$7, 16 av 150 at \$9, 2 av 120 at \$7, 7 av 140 at \$9; to Converse 5 av 145 at \$8.75, 17 av 150 at \$9.25; to Goose 12

av 140 at \$9; to Newton B. Co. 5 av 145 at \$8.75; to Mich. B. Co. 26 av 140 at \$8.75, 2 av 95 at \$7; to Goose 19 av 135 at \$9.35.

Sandall sold Kull 18 av 140 at \$8.50.

Sheep and Lambs.

Receipts, 2430. Market steady at Wednesday's and last week's prices. Best lambs, \$7.25@7.50; fair do., \$6@7; light to common do., \$4.50@5.50; fair to good sheep, \$4.50@5.15; culls and common, \$2@3.

Bennett & S. sold Nagle P. Co. 152 lambs av 80 at \$7.50, 8 do av 65 at \$6. Spicer & R. sold Nagle P. Co. 37 lambs av 65 at \$6.25; to Mich. B. Co. 26 do av 65 at \$4.35, 42 do av 50 at \$5.50; to Newton B. Co. 106 do av 68 at \$7.30; to Costello 12 do av 55 at \$6, 25 do av 60 at \$5.50; to Mich. B. Co. 50 do av 70 at \$7.25, 5 sheep av 160 at \$5.25, 6 lambs av 75 at \$6.50, 6 sheep av 125 at \$5.

Bishop, B. & H. sold Sullivan P. Co. 55 mixed av 65 at \$4; to Nagle P. Co. 209 lambs av 85 at \$6, 178 do av 70 at \$7; to Nagle P. Co. 16 do av 55 at \$6.50, 31 do av 55 at \$6.50; to Hammond, S. & Co. 7 spring lambs av 50 at \$10; to Mich. B. Bros. 11 do av 75 at \$5; to Thompson Co. 10 sheep av 48 at \$5.75; to Sullivan P. Co. 33 do av 60 at \$6.50, 20 sheep av 100 at \$5; to Nagle P. Co. 106 lambs av 75 at \$7.40.

Haley & M. sold Mich. B. Co. 50 lambs av 60 at \$6.75, 14 sheep av 90 at \$5.25; to Newton B. Co. 9 lambs av 70 at \$7, 1 sheep weighing 130 at \$4; to Sullivan P. Co. 14 lambs av 78 at \$7.50, 9 do av 80 at \$7.50.

Hogs.

Receipts, 4627. Market 5c higher than on Wednesday; 25@30c higher than last week's close.

Range of prices: Light to good butchers, \$8.65@8.70; pigs, \$8.65@8.70; mixed, \$8.60@8.65; stags one-third off.

Bishop, B. & H. sold Newton B. Co. 59 av 170 at \$8.70, 180 av 180 at \$8.65.

Same sold Parker, W. & Co. 3400 av 190 at \$8.60.

Roe Com. Co. sold Sullivan P. Co. 425 av 150 at \$8.65.

Spicer & R. sold Hammond, S. & Co. 640 av 190 at \$8.60.

Haley & M. sold same 647 av 180 at \$8.60.

Friday's Market.

May 16, 1913.

Cattle.

Receipts this week, 1158; last week, 1558. Market steady at Thursday's prices. We quote: Best steers, \$8; steers and heifers, 1000 to 1200, \$7.50@7.75; do. 800 to 1000, \$7@7.50; do. that are fat, 500 to 700, \$6.50@7; choice fat cows, \$6@6.50; good do., \$5.75@6.25; common cows, \$5@5.25; canners, \$3.75@4.25; choice heavy bulls, \$6.50@6.75; fair to good bologna bulls, \$5.75@6.25; stock bulls, \$5.50@6; choice feeding steers, 800 to 1000, \$7@7.50; fair do., 800 to 1000, \$6.75@7; choice stockers, 500 to 700, \$6.50@7; fair do., 500 to 700, \$6@6.50; stock heifers, \$5@5.50; milkers, large, young, medium age, \$6@7; common milkers, \$4@5.5.

Veal Calves.

Receipts this week, 1383; last week, 1121. Market strong at Thursday's prices. Best, \$9@9.50; others, \$8@8.50. Milch cows and springers steady.

Sheep and Lambs.

Receipts this week, 2910; last week, 2586. Market steady at Thursday's prices. Best lambs, \$7.50; fair, \$6@6.50; light to common lambs, \$3.50@4.50; fair to good sheep, \$4.50@5.50; culls and common, \$2.50@3.50.

Hogs.

Receipts this week, 7928; last week, 7855. Market steady at Thursday's prices. Range of prices: Light to good butchers, \$8.60; pigs, \$8.60; mixed, \$8.60; stags one-third off.

Veterinary.

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

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

Leucorrhea.—I have a heifer 13 months old, bred three weeks ago, came in heat today again and was served, but do not believe she will get with calf as she has a vaginal discharge. My neighbors had a similar experience and their heifers were sold for beef. A. K. Montague, Mich.—Dissolve 1 dr. permanganate of potash in six quarts of tepid water and wash her out daily if she comes in heat again.

Barren Cow.—My Holstein cow dropped her last calf in October, 1911; she has run with bull quite a portion of time, but has failed to get with calf. Our Vet. examined her, found neck of womb closed; opened it, since then it has been kept open and cow regularly bred, but she fails to get with calf. R. P. Pinchney, Mich.—Breeding her to another bull might be the means of getting her with calf; however, I am inclined to believe her barren.

Laryngitis.—I have a horse that is troubled with cough, but is not broken-winded and does not suffer from distemper. H. P. Grandville, Mich.—Apply one part tincture iodine and four parts olive oil to throat once a day and give 1 dr. potassium iodide and a dessertspoonful of fluid extract of opium at a dose three times a day.

Light Attacks of Colic—Indigestion.—My eight-year-old horse has sick spells every once in a while, but has very little pain. I had his teeth floated, but this does not prevent him from bloating after meals. E. V. B. Caro, Mich.—Change his feed. Give 1 oz. ground ginger, 2 drs. ground fenugreek, and ½ oz. bicarbonate soda at a dose three times a day.

Contagious Abortion.—I have a Percheron mare 12 years old that was bred when two years of age and has had a colt each year until now she is not with foal. She lost her colt last January and I thought perhaps it was accidental, but she has been mated several times since and fails to get with foal. W. L. L., Marion, Mich.—Dissolve 1 dr. permanganate potash in a gallon of clean boiled water and inject her daily for two weeks, using not less than a pint each time. Give her ½ oz. hyposulphite soda at a dose in feed three times a day.

Checked Perspiration.—I have a three-year-old colt which I am breaking to work; she became heated, caught cold and has been quite sick. She now pants when exerted and I would like to know what to give her. J. D. M., Pinconning, Mich.—Give your colt a dessertspoonful of tincture arnica, a teaspoonful tincture nux vomica and a teaspoonful muriate ammonia at a dose three times a day.

Vertigo.—My 19-year-old mare has been having some queer spells develop suddenly; the first symptoms shown is a jerking of head, trembling of muscles and groans as if in pain. H. K. Ithaca, Mich.—Give her ½ dr. of calomel, 7 drs. of aloes and 2 drs. of ginger made into a bolus and given at a dose—one dose only. Give 1 dr. ground nux vomica, ½ oz. of ground gentian, at a dose in feed three times a day.

Parasites in Muscles.—We are at a loss to tell what ailed our hogs last fall and winter; they were examined by our Vet. and he pronounced it paralysis of hind quarters, caused by eating too much corn. One of the hogs died, the others lived, thrived, grew fat and some time ago we killed them. When I cut through hip I found small worms near joint and I would like to know how they found their way there. If a person ate this meat after it had been properly cooked would it harm them? Mrs. M. B. H., Vickeryville, Mich.—The parasitic germs are taken into the body with either water or food, pass from stomach into the circulation and are deposited in different parts of the body, there they grow and mature. If meat of this kind is well cooked before it is eaten it is not harmful. The safest way is to throw away affected parts of the carcass.

Stringy Milk.—We have a cow that gives thick stringy milk; will you kindly advise me what to do for her? E. S., Millbrook, Mich.—It is always good practice to change food and water supply in these cases. Give 2 drs. bisulphite of soda at a dose in feed twice a day and be sure that her water supply is of good quality.

Thoroughpin.—I have a two-year-old colt that has bunches on each side of hock joint and I might add this enlargement appeared three months ago. Our local Vet. thought it a normal condition. A. P. Stanton, Mich.—Your colt suffers from thoroughpin the result of a sprain. Apply one part iodine and ten parts lard three times a week.

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Women and Her Needs. At Home and Elsewhere.

A Little Advice To Father.

I OFTEN wonder if the busy women who read this department get as tired of being told their duty as I do of being told mine? When I think of the countless magazines and newspapers devoting page after page of perfectly good space to tell women what they ought to do to be perfect wives and mothers, and calmly ignoring the fact that men also owe a duty to their families, it strikes me that justice must indeed be blind. Scores of mothers' magazines and not one devoted to father. Thousands of "Woman's Pages" in the dailies, and not a "stick" of space given to "Man and His Needs." Not that man doesn't need to be told his duty, far from it. The real secret reason of the omission is that men are the ruling power in every publication and they refuse to make the slightest admission that their sex needs to be told anything.

Again and again have I tried to smuggle in a column of real good advice to "father," only to have it tossed into the wastebasket, or so trimmed and touched up that by the time it got into cold type it was a real complimentary article.

I always try one about the time in the spring when all the articles begin to come in to the woman's department about "beautifying the waste places," cleaning up the back yard, making the vegetable garden, weeding the strawberries and planting trees and shrubs. It always seemed to me that a large part of that work was father's. For the life of me I don't see why he can't rake up the yard, cart away the ashes, plow the garden plot and get it in shape and help with the weeding, a little bit easier than can mother. Certainly he is stronger and has just as much time. Of course, he has to get in his crops and do the chores, while all the women have to do is to cook and wash dishes and wash and iron and mend and sew and scrub and clean house and paper and paint and look after the milk and the chickens and sweep and dust and get the older children off to school and look after one or two smaller ones and help look after the young lambs and calves and carry wood and water and put up dinners and see that father and the boys change their clothes when they need to and a few minor things like taking care of the fruit and chasing the chickens out of the garden because father hasn't time to fix up the fence.

One can see at a glance that mother hasn't enough to do to keep her in good health, and she really ought to have the exercise in the fresh air that cleaning up the yard and making garden would give her. That is the masculine attitude, anyway. But to me it looks as though here was a chance for some magazine to put father wise as to a part of his duty.

I have always thought, too, that several columns might be devoted to telling father how to keep the confidence of his children. We never pick up a paper, we women, that we don't read the awful things that happen when mother fails to keep her daughter's confidence. How many mothers and daughters would be spared heartbreak and suffering if some father had kept his son's confidence. I never hear a father say, "Go and ask your mother," or "Go and get your mother to do it," that I do not want to rise up right then and there and ask him if he is willing to admit that "mother" is wiser and more capable than he in everything. In a business deal, men would never turn everything over to the wife and abide by her decision. But in the business of raising the children they take the attitude that it is of so little importance that women can do it as well as not.

In bringing up the family father has assumed that his duty ends when he provides the money for food and clothes and medicine. Mother is to cook the food, make the clothes, decide as to drugs, and after tending to physical wants, look after the mental and spiritual as well. Has father no share in the really responsible part of bringing up the family? Is he not to be held accountable for the sins of the children if he has failed to give them the teaching that each soul needs? Verily the sins of the fathers are visited upon the children, and this sin

of father's failure to counsel his sons and daughters is the one most prolific of suffering.

What boy will listen to his mother after he has reached a certain age? With all the masculine contempt for woman's rule he ignores her advice and entreaties. But if father should speak the same words, father, who, being a man is, of course, infinitely wiser than mother, the words would carry weight.

There is an old song which brings out most aptly the attitude of the average American father, city and country, as regards the children:

"Go rock the baby," said Mary,
"Go rock it yourself," said John.
"The half of it's yours," said Mary.
"The other half's yours," said John.
The consequence of this story
It wouldn't be hard to tell.
Mary got up and rocked her half,
While John let his half yell.

And the "rocking" is carried on in just the same way all through life. Mary does her part, and if she is able, she does John's, too. If she is not big enough or wise enough or good enough to do John's part, a time comes when the state steps in and tries to correct John's omission.

DEBORAH.

BABY'S MILK SUPPLY.

Temperature of Milk.—It is very important that milk be cooled immediately after it is produced. How the cooling can best be brought about depends largely, of course, upon the quantity and the conditions under which it is produced. Milk should be cooled to 50 degrees temperature or less, immediately after its production. An ideal milk would necessitate cooling to 40 degrees and maintained at not to exceed 50 degrees.

Preparation of Babies' Food.—Just as important as cleanliness and temperature is the method of preparation of the day's rations for the baby. It has been stated that the average pig in Michigan receives nearer a balanced ration than does the average bottle fed baby. This is perhaps not literally true, but is worth consideration. As soon as the day's milk supply is delivered to the house, the first business should be the preparation of sufficient quantity for the baby during the next 24 hours. The entire quantity should be prepared at one time, divided into portions for individual feedings and placed in the refrigerator or otherwise disposed of so it will keep cool. If the milk is not known to be pure it should be pasteurized in the home. It is unsafe to feed a baby commercially pasteurized milk. Milk that must be pasteurized before delivery should be looked upon with suspicion. The word "pasteurized" on the bottle or cap is practically always an acknowledgment of unsanitary methods in milk production and distribution.

To pasteurize milk in the home, set the bottles unopened, as received from the delivery man, into a pail or basin of water. Put a small block of wood or a cloth in the bottom of the basin, under the milk bottles, so the heat will not break the bottles. The water in the pail should reach at least two-thirds to the top of the bottles. Set the pail containing the water and bottles of milk over the fire. Heat until the water (but not the milk) begins to boil. Remove the whole thing from the stove, and allow the bottles of milk to remain in the hot water 15 minutes. Then cool the milk as rapidly as possible and it will be practically pasteurized.

After pasteurization, if that is necessary, prepare as many individual feedings as the baby will need during the next 24 hours. In the preparation of the feedings the advice of a competent physician or a properly trained nurse should be sought and carefully followed. Within very narrow limits, a competent person can determine the proper proportion of fat (cream), sugar, proteid, etc., that a baby should have. This is usually a definite proposition in relation to individual babies. Because Mrs. Brown's baby got fat on "cow's milk diluted one-third with water" is no argument for feeding Mrs. Smith's baby the same. Absolute cleanliness should be observed in the preparation of the baby's milk. Every bottle

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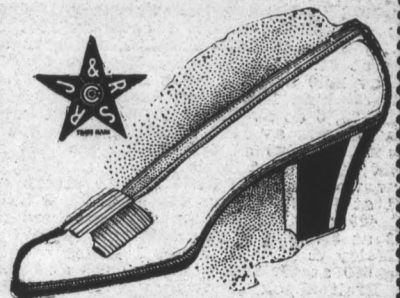
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and nipple should be thoroughly cleansed by boiling.

It may be necessary to "change milk" for the baby, but it is about as often indicated to "change methods."

Avoid, if possible, the patent, prepared baby foods. They are unnecessary, unsafe and expensive. Many a "baby's food baby" has rickets. Cooked milk, pasteurized or sterilized, is liable to cause rickets. Babies should be given fruit juice, preferably orange juice, daily after the first few weeks. This tends to prevent rickets.

Sanitary Nursing Bottle.—The bottle should be so shaped as to be easily cleaned. There should be no corners on the inside. Immediately after being emptied, the bottle should be well rinsed and washed out, using a bristle brush. Before being refilled it should be thoroughly washed and boiled.

The nursing nipple should be of the sanitary sort. It should be a kind that can be turned wrong side out and washed and boiled. We are told that boiling nipples soon spoils them and it is advised that instead of boiling them they should be well washed and then soaked in a saturated solution of boracic acid.

These long tube attachments should never be used. Any nurse or mother equipping a baby's bottle with such a device should be prosecuted for cruelty to children and punished as criminal. They are filthy, germ-breeding, disease producing "conveniences."

Regular Feeding Time.—The clock is almost as important as the bottle. Babies should have a definite schedule for meals. This should be followed very closely. The habit of feeding a baby every time it cries is to be condemned. The mother or the nurse should determine upon a feeding schedule and stick to it.

Sleep.—This is essential to the welfare of the baby. He should have his sleep at regular times. The sleep should not be interrupted by loud and unnecessary noises. On the other hand, he should be able to sleep amid the usual household noise. —Form Michigan Public Health Bulletin.

HOME QUERIES.

Household Editor:—Will you give some advice through The Farmer's Household column in regard to making a case for the family medicines? Tell something about the size, shape and the proper place and way of fastening it to the wall. —Reader.

The nicest way to build a medicine cabinet is to have it built in the wall, but in case of fixing a case for an old house, of course this would be too expensive a method. A good way of building one from an old clock case is described in another column in this issue. Lacking this case, I should have the handy man of the house build one about 7 inches high, 18 inches wide and six inches deep, of planed lumber. If you utilize a packing box it would have to be papered on account of the rough boards, and to be really sanitary it should be painted or given a coat of white enamel so it can be washed out every two or three weeks. Have about four shelves inside, the first one at the top to accommodate small bottles, the next shelf for those a bit larger, and the bottom shelf for eight-ounce bottles. Of course, it must have a door carefully hinged and provided with a fastener. It could be fastened to the studding with large, strong screws, or stand on a shelf in the bathroom or kitchen.

Household Editor:—Please describe the process of preparing chicory roots for coffee. Seedmen offer three kinds: Large green curled, moss curled and ever white. Which is preferable or are all three equally good?—H.

Write the Department of Agriculture for Farmers' Bulletin No. 19—"Chicory Growing as an Addition to the Resources of the American Farmer." Also the University of Nebraska for Bulletin No. 49, "Suggestions for Chicory Culture."

Allow me to pass along something worth knowing to those who make fried cakes. I was at a neighbor's recently when she was getting ready to fry cakes. When she got a match I said, "Well, what now?" "Oh, to tell when the grease is hot enough." So it was, for when the heat was just right, the match lit as soon as dipped into the fat, but not a second before. Try it yourself and you will agree with me that while the bread test is all right, the match test is even better, and a part of that minute may be used in frying cakes.—M. S.

A neat and handy medicine or spice cabinet may be made from the case of an old-fashioned clock. Remove all the works and insert shelves of some thin wood by cutting so as just to fit in, and

glueing the ends to cross pieces first glued to the sides of the case. It may require a new coat of polish but the fine woods of which the cases were made retain a handsome appearance for many years, making a useful and ornamental cabinet.—C. L. C.

LETTER BOX.

Trying to Appear What we are Not.

Will my laughing girl of today be the worrying woman of tomorrow? Notwithstanding the fact that there are many inborn characteristics in every child which will remain as long as life, yet there are also many influences on the subconscious mind that will mark and mould it, the larger number of which are likely to escape our notice. We say women worry more than men, but are we not teaching our girls today that they are more responsible for high morals, neatness of appearance, and general excellence of deportment than their brothers? Indeed, we take pains to impress upon them that they are to be "refined ladies," which society has deformed into deceitful and distrustful bric-a-brac.

I have heard a school superintendent who was trying to impress the band-box idea upon a group of girls, tell them they were "tom-boys," and that if they expected the respect of boys they must be ladies. I dare say a multitude of mothers are saying that very thing in one way or another today, and in a sense they are right. But, dear mothers, are you sure little daughter does not get a wrong impression and believe that she must appear to be what she is not? Would it not be far better to teach boys and girls alike that "There is nothing as kingly as kindness and nothing so royal as truth?"

I honestly believe that above all other things the source of woman's worry today is the everlasting subconscious idea that we are expected to be something that we are not. If a man is industrious and honest with his fellowmen he is looked upon by everybody as a good man and he is happy, why not woman? Let us teach our girls and boys that with God there is but one code of morals and there will need be no stamping of feet to secure equal suffrage.—A Subscriber.

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Home and Youth

A SUNDAY GAME.

BY GENEVA M. SEWELL.

"What will we do this afternoon?" asked Frank Morgan, of his cousin, John Shirley, as they came home from church one Sunday.

"I don't know what, but mother'll have something nice for us to do. What do you do at home on Sunday afternoons?"

"Oh, Dad reads and sleeps, and Mother plans her work for the week, and the girls go out with a giggly bunch of girls and make 'goo-goo' eyes at every fellow they meet, and I skip out to the picture show or take a trolley ride to the ball game. I should think it would be awfully poky in this little burg on Sunday, no ball games nor amusements of any sort."

"Well, we always manage to have something nice to do that makes Sunday afternoon the best time of the week," responded John cheerily.

When dinner was announced each one of the young people found a card at their place with the words, "What am I" in large letters on one side and in the corner the words, "In the library at 2:30 p. m." On the other side were the directions, "Hunt in the Bible until you can find some object mentioned that you can describe in a few words and that can be answered correctly in one word."

"I don't see what fun there'll be in that," protested Frank as the young folks all gathered in the library after dinner.

"Get a Bible and hunt," answered his cousin Mary. "If it hadn't been a good game mother would never have proposed it."

"Oh, I know all there is in the Bible, and it's hundreds of years behind the times. It's dry as dust; guess I'll ask to be excused and go fishing, if you don't mind, Aunt Anna."

"I want you to enjoy your visit, Frank," answered Mrs. Shirley soberly, "but before you go I wish you would tell me the answer in one word to this little word story. As you know the Bible so well, it will not take you long and will help to show the others how the game is played: I am a well known implement of husbandry in common use even half a century ago."

"Oh, that's not in the Bible then, for it's older than that. I caught you that time, Aunt," laughed Frank.

"I was formerly frequently used, metaphorically in the Bible," continued Mrs. Shirley.

"Huh—metaphorically—what next?" asked Frank.

"When made of iron, I was supposed to represent, metaphorically, an unusually galling bondage."

"Oh, a chain," guessed Frank.

"No, though I was also used as a measure of land, the amount being as much land as could be plowed in one day by a couple of oxen. I am mentioned several times in this quarter's lessons."

"Are you sure it's in the Bible, Aunt Anna? It sounds altogether too interesting to be in the Bible."

"Well, it's there, Cousin Frank," answered Lucy, "for I've just found it."

"What is it?" asked Frank eagerly.

"Look in First Kings, Chapter XII, verse 4," replied Lucy.

"Well, wouldn't that get you," declared Frank as he found the word.

"Say, that was a good one, mother," said John, as he also found the word.

"Now it's Lucy's turn, she got that one."

"Well," began Lucy, "here is one from today's lesson: I am used for warlike and for peaceful purposes, but most commonly for the former."

"Oh, I know—a spear," guessed Frank.

"No," answered Lucy. "In the Bible you will find me first spoken of in Egypt where Joseph, as a mark of distinction, was placed in one of Pharaoh's."

"A basket," hazarded Frank.

"You must be thinking of Moses," laughed Mary.

"Oh," said Frank rather crestfallen, "I guess I was."

"Where else were you used?" asked John.

"In Jacob's funeral procession there were several of us; we were used as a sort of guide or escort of honor."

"Go on, Lu, I believe I'm getting a glimmer of an idea," said John.

"In ancient times we indicated the military power of a nation."

"How many could ride in one of you?"

"Two or three persons usually occupied us. The Prophets frequently allude to us as a type of power."

"Look in 2nd Kings, Chapter XVIII, verse 24, and you will find the word," declared John triumphantly.

"What is the word?" asked Frank.

"Look, and find it, Lazy," laughed Mary. "Now it's your turn, John."

"I expect you will guess me at once, but here goes: I was once used to let one of the Disciples down over the wall at Damascus—"

"Huh, a rope," guessed Frank.

"No, not that, though a rope may have been used to help."

"What are you made of?" asked Mary.

"Out of various things, depending upon the use to which I am to be put; sometimes twigs, sometimes reeds, sometimes papyrus."

"Well, what are you used for?" queried Frank.

"For different purposes, depending upon the size; sometimes things are stored in me, sometimes they are carried in me; then I have to be strongly made. When I was used to let the Disciple down over the wall I was a large, strong one, and when I was used as a sort of cradle or boat for a baby I was made out of bulrushes daubed with clay and then with pitch."

"Oh, I know—look in Acts IX, verse 25," said Frank gleefully. "That's easy as pie; when you began talking about boats and babies I was sure of the word and turned to the concordance and took one of the references and it told about letting Paul down over the wall at Damascus, so I knew I was right. I just begin to catch on now and, believe me, this is some game."

"I think so, too," assented John; "let's see what you can do."

"I am frequently referred to in the Bible. The first place I am mentioned is as being used to make articles of clothing; now guess," grinned Frank.

"Articles of clothing! that is a hard one, Frank; can't you tell us more?" asked Lucy.

"I am also referred to as a sign of national prosperity."

"Tell us your color or size or shape," said John.

"Well, I am tall and strong and grow best in sandy places."

"You must be a tree or a plant, and yet—articles of clothing," pondered Lucy, "do you grow in this country now?" she suddenly asked.

"Yes, I've been in this country for many years."

"Are you still used to make articles of clothing?" asked John.

"N—no," smiled Frank.

"Well, then, what good are you; do you bear fruit?" asked Mary.

"Yes, I usually produce quantities of fruit and am considered one of the valuable products of Palestine. It is said that our Lord, on finding one that did not bear, cursed it and it withered. He often spoke of me metaphorically, or I might say, figuratively," and Frank smiled slyly.

"Oh, I know—Luke VI, verse 44. Isn't that right, Frank?" guessed Mary.

"Right you are," answered Frank.

"Well, wait a minute till I look it up," said John.

"That was a good one, Frank, that about being used as articles of clothing—fooled me completely," laughed Lucy.

"Now it's your turn, Mary."

"I have a literal, a metaphorical and a symbolic use in the Bible," began Mary.

"Tell us some of your literal uses first," requested Frank.

"I was used for signaling."

"Oh, a flag," guessed Frank.

"No," laughed Mary, "though I could carry certain things."

"Tell us some of your metaphorical uses, Mary," asked Lucy.

"I was used on the altar of burnt offerings, also on the incense altar."

"You certainly are a goat, then," laughed John. "Tell us some of your symbolic uses."

"I served in scripture as symbols of power, dominion, glory, and fierceness."

"What color are you?" asked Frank.

"Sometimes a white, sometimes almost black, and sometimes a sort of grayish white."

"Are you to be found in Luke I, verse 69?" asked John.

"Yes," replied Mary.

"Well, who'd think such simple everyday words as that had such interesting meanings," commented Frank. "I'm going to spring this game on the folks at home the first Sunday I am there."

The words in the order in which they were given are "Yoke," "Chariot," "Basket," "Fig tree" and "Horn." A Bible with concordance and dictionary is all the things you need to play this very interesting game.

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.

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

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

Associational Motto:

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

Associational Sentiment:

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

THE FARMERS' CLUB AS A UNIT IN BUSINESS ORGANIZATION.

While the Farmers' Clubs have been successfully organized and conducted along social and educational lines in the many Michigan communities where they exist, it is entirely possible that there is a wider sphere of usefulness for these organizations than they have yet occupied in most communities. There are a great many lines along which the farmers of a community can be organized in a business way to their mutual profit. Recent experience has demonstrated this fact in a variety of different ways.

For instance, one field man representing the agricultural college has organized something like 60 breeders' associations in different parts of the state within the last few years. In some cases at least the Farmers' Clubs in these communities were made the nucleus or unit about which was built up the other business organization. Some years ago the writer attended the initial meeting called for the organization of one of these breeders' associations through the action of a local Farmers' Club. The farmers of many other communities in the state might well emulate the action of those identified with the Farmers' Club above mentioned and where there is a Club in the community it could with profit be made the center or unit of a business organization of this kind which would profit its membership to a degree. There is no question but that these breeders' associations have been the source of considerable profit to their members and will be a constantly increasing profit in years to come, as their herds are built up to a higher standard of production.

Also the Farmers' Clubs would serve to just as good purpose as the unit of organization along other lines. There are in Michigan a large number of alfalfa Clubs which have been organized for the purpose of introducing this valuable forage crop. There are potato clubs in some sections of the state through which experiments are conducted with regard to the increase of the production of this staple crop through improvement of the seed and methods of culture. There are experiment associations organized to conduct general experiments under the direction of expert advisers, and here, again, the Farmers' Clubs would serve as an admirable unit in such an organization.

The matter of co-operative marketing is attaining increased importance in discussions throughout the state and there is no good reason why the Farmers' Clubs can not be made the basis in the development of marketing organizations along lines of community production where Clubs exist in a community largely devoted to the growing of some special crop or the production of some special commodity. Later, as the campaign in the development of rural credit in this country along lines adapted to the needs of our farmers as determined by thorough investigation of European organizations of this kind, it is probable that the Farmers' Clubs can be made a suitable unit in the development of such organizations.

In fact, there is a wide field for usefulness open to the progressive Farmers' Clubs along the several lines in which it may be made the unit in business organizations without in any way detracting from its present usefulness as a social and educational factor in the community. This is an ideal well worthy of careful study by the membership of every local Club in the state to the end that these

organizations may be made to serve the community in which they exist to the fullest possible degree. This does not mean that these various kinds of work should be conducted by the Club as an organization. Probably for best results they should not, but the Farmers' Clubs can be profitably made the medium in the discussion of their desirability and the detailed work of effecting an organization to carry on such lines of work can be very profitably accomplished through the Farmers' Clubs.

While the members not so much interested in the proposed business organization might not care to have the energies of the Club devoted to same for any considerable period of time, yet they could not well object to the Club as an organization taking charge of the preliminary work incident to the promotion of organizations of this kind, and those who are particularly interested in the effect of such business organizations will greatly appreciate the Club taking the initiative in them. There is, in fact, no medium more suitable for the discussion and preliminary work which must precede the formation of profitable business organizations in farming communities than the Farmers' Club, and this should be made the subject of discussion and consideration in every local Farmers' Club within the state.

Oakland Co.

A. R. FARMER.

WHAT THE LOCAL CLUBS ARE DOING.

The Genoa Farmers' Club, of Livingston County.—This Club serves dinner upon the assembling of the members and the program is rendered after dinner. The dues are 25 cents per member. Eighteen families are included in the membership and the children grow up with the Club.

The New Century Club, of Oakland County.—This Club is the second largest in the state. The delegate from this Club emphasized the fact that to make the Club more valuable to the community the active work of the Club should be carried on by a large number of people. New people should be sent to the associational meetings each year, as is the policy of this Club. There should be co-operation in the matter of routine work.

Berlin and Almont Farmers' Club.—Our Club has over 100 members and keeps a good interest in farming problems. One new idea in regard to the destruction of sparrows was, "make boxes about wood-house and trees where sparrows build and take out the speckled sparrow eggs. One lady found 90 last season. This is better than destroying the nests and letting the sparrows go free."—Mrs. T. C. Taylor, Rec. Sec.

CLUB DISCUSSIONS.

Discuss Temperance Subjects.—At a recent meeting of the Washington Center Farmers' Club, of Gratiot county, the question for general discussion occupied most of the time during the afternoon. "Immigration, Liquor or Trusts; which is the greatest menace to our National Prosperity?" This was led by O. J. Campbell, and followed by Mr. Allen, both declaring liquor to be the greatest menace and proved their declarations by good arguments. A debate, "Resolved, That moral suasion does more to check the use of liquor than law." The affirmative was taken up by Mrs. S. Z. Crowell, who made a good argument for moral suasion. The leader for the negative being absent, several volunteers took that side of the question. It was decided in the affirmative. The question box was well filled.

Hold Special Meeting.—The special meeting of the Putnam and Hamburg Farmers' Club met at the pleasant home of Mr. and Mrs. Wirt Hendee and proved to be a very profitable meeting. All present responded to roll call with conundrums. Silas E. Swarthout received a prize for answering the greatest number. After a sumptuous dinner W. J. Nash read a well prepared paper on the preparation for the corn crop which was ably discussed. Good music enlivened the meeting.

Butter vs. Eggs.—The Hartland Farmers' Club held their May meeting at the pleasant home of Mr. and Mrs. James Brian. After dinner the meeting was called to order by the president, H. W. Clark. America was sung by the Club. Mrs. H. W. Clark responded to the question, "In which is the most profit, butter-making, or poultry raising?" She thought that if you put \$60 into a flock of hens and paid the same amount for a cow that you would receive the most profit from the hens. Mr. Hacker and Mr. E. Rose each gave a short talk on alfalfa. Following a good musical and literary program, including a paper by Miss Corcoran, the Club adjourned to meet the first Saturday in June with Mr. and Mrs. Frank Travis.—Mary E. Openo, Cor. Sec.

Grange.

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

THE JUNE PROGRAMS.

State Lecturer's Suggestions for First Meeting.

Song.
Roll-call responded to by each giving experience with a pleasant piece of work.
Recitation, "When June gets here."
How to make some piece of home or school apparatus for play.
Do sugar beets increase soil fertility?
Song.
The most attractive part: 1. Of my township. 2. Of my county. 3. Of my state.
Pantomime or dialogue.

Suggestions for Second Meeting.

Song.
Roll-call responded to by each giving a favorite verse of poetry.
Reading, "The best will ever written."
Soil cultivation: 1. Why cultivate? 2. When cultivate? 3. How cultivate.
Song.
Stunts in tongue twisters.
Results of teaching agriculture in our schools this year, by an eighth grade pupil, a teacher, and school officer or parent.
Mock school meeting, conducted by the women.

THE GRANGE'S CHANCE FOR GREATER USEFULNESS.

The Grange has done a great work and should it pass from the face of the earth today it would be entitled to a prominent place in any history that purported to tell the story of the agricultural development of America.

Life is but an ever readjusting to a constantly changing environment. This definition is true whether we think of life from the biological, the intellectual, the business, or the social standpoint.

The Grange has lived for more than 40 years, and it is going to continue to live because it has within it the power to adjust itself to new conditions. It has been an important factor in the solving of many vital problems, but its greatest field of activity is just ahead of it.

The all-important problem in agriculture today is that of teaching the members of our rural population how to co-operate for their financial betterment, of teaching them, if you please, how to organize so as to do collective bargaining. Nobody claims that the producer of agricultural wealth gets his full share of the prosperity that he makes possible. The reason for this is that the moment he begins to exchange that which he produces for that which he needs he comes in contact with organizations consisting of men who are banded together for mutual aid. The truth of this will be quickly seen when an enumeration is started of the various business associations. The produce buyers are organized, the retailers are organized, the wholesalers are organized, the railroads are in combination, the lawyers, doctors, bankers, in fact all with whom the farm has business are in organization to improve their economic welfare. It is right that they should be so banded. And it is right and, furthermore, imperative, that the farmer should follow the example set him. Collective bargaining is the order of the day.

It is currently reported that the farmer gets but 35 cents out of each dollar that the consumer pays for that which is produced on the farm. The farmer should have more, but he will never get it until he goes after it with an organization powerful enough to force financial victories.

The farm develops independence of thought and action. We need both in this country to keep us on the path to greatness and power. But the farmer needs a larger share of the wealth which he is producing in order that he may be all that he is capable of being. To get this wealth he must organize for financial purposes.

There is need of a leader, a great leader, one who will bring the farmers together in an organization that will get them the better prices that they are entitled to. The Grange should produce that leader.

The greatest service that the Grange can perform today is to produce a leader who is big enough to band the farmers together for better prices. It matters not whether this leader comes from the state, the county or the subordinate Grange; the important thing is that he come quickly, that he come before the Grange loses touch with its environment.
Gd. Traverse Co. R. H. ELSWORTH.

EATON POMONA SHOWS GROWTH.

The members of Eaton County Pomona met with Prospect Grange on Saturday, April 26, and were royally entertained. Despite a heavy rainfall, representatives were present from Roxand Center, Needmore, Charlotte, Vermontville and Oneida Granges and a goodly number of the members of Prospect Grange. In the absence of Pomona Master Pray, Bro. Chas. Lundquist, assistant steward of Michigan State Grange, called the meeting to order and filled the master's chair throughout the session. The secretary's report showed an increase of over 100 new members since the December meeting of Pomona. Reports of subordinate Granges showed all to be in good working condition and an increase of membership.

The program opened with a song by Prospect Grange. Bro. H. D. Burroughs read a paper on the relation of Pomona Grange to the subordinate and what benefits are derived from Pomona. He said Pomona was a very important link in Grange work and he valued the personal benefits he had received from Pomona, as did all who took part in the discussion. Bro. Halligan, who was to give the talk on fruit growing in Eaton county, missed the train in Grand Rapids, and Bro. Upright was asked to open the talk which he did, and was followed by Bro. Hager and others. These talks brought out the fact that farmers in that section are discouraged with apple growing and a number have cut their orchards down, leaving just enough for family use.

The next meeting of Pomona will occur with Northwest Walton Grange on Saturday, June 21.

Home and Rural Sanitation held the attention of members of Harmony Grange, of Wayne county, at its last meeting, the program being made up of interesting discussions, recitations, instructive papers and readings. The program for the next regular meeting will pertain to Mother's Day and Arbor Day, with special music a prominent feature. The sisters are requested to respond to roll call by naming the native birds of Michigan, and the brothers are to respond by naming the native trees of Michigan.

Bear Lake Grange, of Manistee county, recently held a social at a local school-house which netted its treasury over \$17. This Grange has purchased a building which will be converted into a Grange hall as rapidly as funds for the purpose can be raised. The younger members are also planning to organize a ball team.

THE GRANGE IN OTHER STATES.

Connecticut State Grange, through its legislative committee, is working against the enactment of an employers' liability and workmen's compensation law unless it shall exempt the farmer. They are also working to have the present personal tax of \$2 retained. A Patrons' Exchange, for purchasing farm supplies, is a feature of the work in that state. A single Grange has made purchases to the amount of \$18,000 the past year. The present membership of the Grange in the state is something over 15,000.

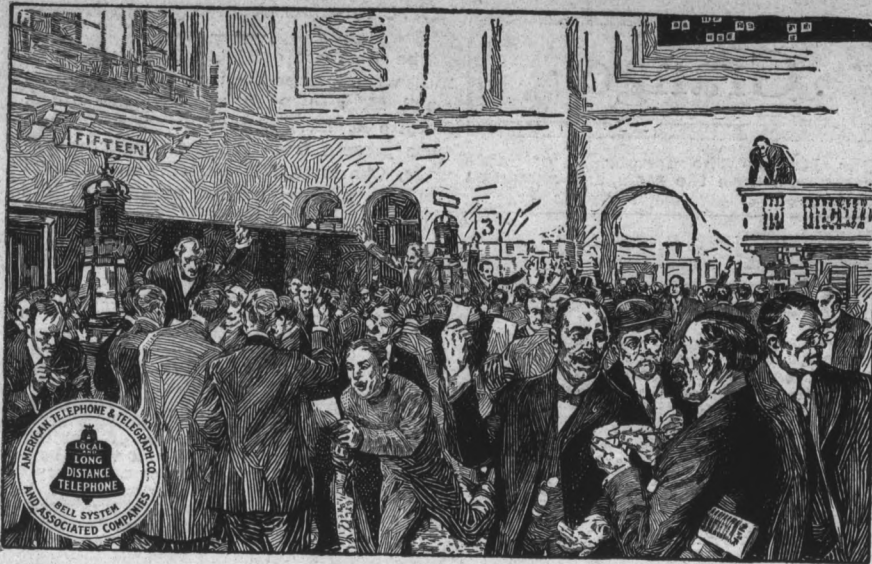
Grange Credit System.—Pennsylvania State Grange has adopted a co-operative credit system which it believes to be both practical and workable, as well as not in conflict with present banking laws. It is based on the principles of the foreign credit systems of which we hear not a little these days. The plan proposed is as follows: In a Grange of 50 members each would pledge his individual credit for a sufficient amount which, taken collectively, would make a credit basis large enough to do the business of that Grange on a cash basis. It is proposed to use this collective credit as collateral at the bank, where notes are given for purchases made. An executive committee will have charge of the credits and will pass upon all purchases at meetings of the Grange. If a loss should occur it will be divided pro rata among those whose credit has been pledged, no member to be held liable for an amount larger than his pledge. Under this plan those who have pledged their credit pay no interest.

How New York Patrons Co-operate.—Germantown Grange, of Columbia county, N. Y., has less than 200 members and yet its co-operative buying has exceeded \$15,000 in one year. Purchases are mostly of flour, feed and coal. The Grange has a purchasing committee the members of which are located in different parts of the township. Any member desiring to purchase anything gives his order to some member of the committee and when sufficient orders to fill a car are secured they are placed with the chairman of the committee and he buys where he can secure best at the lowest price. He takes charge of the car when it arrives and delivers to those who have placed their orders with him. Bills are enclosed and must be paid within 30 days. A charge of one and a half per cent is made for expenses, such as unloading, interest on investment, etc. This affords about the simplest and cheapest method possible of transacting a co-operative business and with very general satisfaction to all concerned.

COMING EVENTS.

Pomona Meetings.

Eaton Co., with Northwest Walton Grange, Saturday, June 21.
Montcalm Co., with Langston Grange, Thursday, June 19.
Wayne Co., with West Road and Willow Granges, in Willow Grange hall, Friday, June 13.
Ingham Co., with Locke Grange, Wednesday, June 11.



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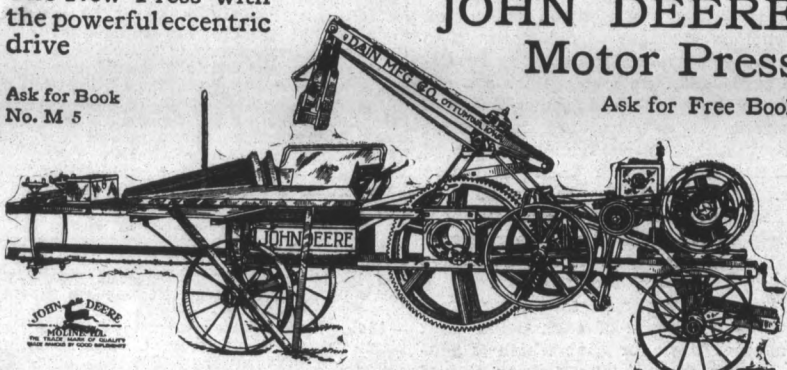
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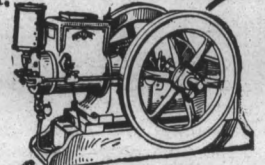
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