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The Corn Crop.

Lengthening the Growing Season.

It is not possible for us to get an ideal corn season made to order so that it will be just long enough for corn to ripen, dispose of its surplus of moisture and take on that firmness and finish that is so necessary for quality and feeding value. Although this is true, it is within our power to lengthen the season considerably by providing good seed and proper culture. There are several factors that enter into the art of prolonging the growing season and thus make it possible to produce better corn, each of which donates its mite toward a more successful crop.

The time of planting is one of the most important of these factors. We cannot expect corn to mature and make a good grade if we delay planting until the middle of the summer, for the season will be too short. Neither should we expect the best results if we plant too early, so that the corn is stunted in early life by late cool weather, and set back so weeds will get the start of it. But if planted just as soon as the ground is warm and all danger of frost is passed, it will have a far better chance to mature and produce a satisfactory yield.

Another thing worth careful consideration is the kind of seed to use. Good seed with a degree of vitality that causes quick, persistent growth afterwards is worth many times more than seed of poorer quality. The corn produced by this good seed will ripen long before the other if given the same chance. Good seed will give a perfect stand which is as essential to the highest yield as a long growing season.

The manner in which the seed bed is prepared also helps in adding days to the length of the season. A well prepared seed bed insures quicker, surer and more uniform germination. It conserves moisture to tide over the summer drouth, so that the growth during the warm days, when corn grows most rapidly, is not retarded. It makes cultivation easier and more effective, which induces rapid growth.

The method of planting plays an important part also. Fairly deep furrows afford plenty of moisture during the germination period, so that this process may go on without being checked. A light covering instead of a heavy coat enables the sprouts to come through the soil quickly and evenly. This also aids rapid germination because the air above the soil

is warmer than that beneath the surface. A fine silt on top permits all stalks to grow upright, whereas when clods are present many of the stalks may be deformed and stunted early in life.

Shallow, frequent and early cultivations are conducive to rapid, regular growth. This does not interfere with the development of the lateral root system, but it does conserve the moisture.

Manure and the right kind of fertilizers make the crop develop more rapidly than it otherwise would, although their use is not thought of as much along this line as for the production of a larger yield. Even when only scantily applied, if well mixed with the soil they induce rapid growth. These furnish readily available plant food and as about two-thirds of the food that the corn plant uses is taken up during the first half of its growth, a more complete root system is developed in the early stages of plant life. The sooner the root system is developed the larger will be the area of the soil that the

able to produce two ears and one stalk but it cannot produce two good stalks and two ears.

Indiana. C. H. WHEATLEY.

PROTECTING THE CORN FROM CROWS.

Considerable interest has been developed in an inquiry as to the best method of protecting corn from crows and the reply thereto which was published in a recent issue of the Michigan Farmer. Many readers have contributed short articles on this subject, describing their methods of protecting the corn field from the depredations of crows, from which the following have been selected for publication:

Would Let the Crows Alone.

I would like to say to the man who asked for a remedy to prevent crows from pulling his corn, that the best way is to let the crows alone. It is commonly believed that crows pull corn to get the kernel that is in the ground. Really, they are after the cutworm that is attacking the plant.

gnawing at the plant or crawling through the ground. Any reader can prove this to his own satisfaction by observing as above noted, or by taking a field glass and watching the crows; or, if they are not then satisfied, they can become so by shooting a few of the crows and examining their crops.—R. V., Calhoun County.

Treats the Crows, Not the Corn.

Noting the inquiry of G. C. H., of Kent county, as to how to keep the crows from injuring the corn, I will offer my plan. I take my repeating shotgun and about a dozen shells and go to the woods early in the morning. Having previously observed a tree where they frequently light, which is generally one with a dead top, I conceal myself in some nearby bushes and begin to "caw" as though there were a hawk or something about, to excite them. The crows will begin to congregate and fly around awhile, after which they will light in the tree, then I work the trigger and the gun does the rest. When I have shot a sufficient number, I take them to the cornfield and hang them up; that is

all that is required to keep the crows away. By practice one can imitate a crow very well and call them for a long distance.—O. H. G., Eaton County. Treats Seed Successfully.

For the benefit of your readers, I will give my method of preventing the crows from pulling corn. Take equal parts of raw linseed oil and gas tar or pine tar. Mix and pour about a tablespoonful into about a half-bushel of corn and stir until each kernel is coated. This treatment will not interfere with planting in any kind of planter, neither will it injure the corn. While I do not claim this to be a "cure-all," I have used it (and so have my neighbors) for the past six or seven years, and find it is equal to anything we have ever tried. A few cents' worth of each

of the ingredients will dope a lot of seed corn.—J. H. V., Allegan County. Another Method of Seed Treatment.

For twenty years I have treated my seed corn to prevent depredations of crows, in the following manner: I put the shelled corn, about a bushel at a time, into a closed tub, cover with luke-warm water and let it stand about five minutes, then pour the water off and apply about four tablespoonfuls of coal tar, which will coat the corn nicely. The corn is then stirred with a stick until every kernel is coated, then mix in enough wood ashes to cover the coat. If planted in a machine or hand-planter, the corn should then be spread on a canvas to dry. It will plant as well as if not



A Good Seed Bed is the First Essential in Insuring a Profitable and Well Matured Corn Crop.

plant feeds upon. Manure and fertilizers do not help in this respect and are not as effective when drilled in the row. A better plan, we find, is to spread broadcast and harrow it in the soil.

Suckers are parasites—degenerates. No sucker, no matter how promising, should be allowed to grow. They only retard the development of the better stalks that produce the ears. Suckers never produce good corn. It takes watchfulness to keep them down. One may start under the ground, catch up with the main stalk and be mistaken for a healthy, normal stalk. The result will probably be two chaffy nibbins instead of one good ear. The root system of the main stalk may be

I have seen men scatter corn on the surface to decoy the crows, and they would not touch it. The farmers would then say that the crows liked the sprouted kernels better. What reader has not seen where the crows have pulled the corn plants and left kernel and all lying on the ground, but who has ever known them to pull the corn out any time except early in the morning when the cutworms are at work? If Mr. G. C. H. will walk over his cornfield some morning after the crows have been at work, and dig in the hill a little, he will find most of the kernels left in the ground, and he will find places where the crows have dug several inches from the hills. They can hear the worm

coated. This is also a protection from wireworms and other enemies, as nothing will bother it. During the 20 years I have used this treatment, I have not had one failure.—T. B., St. Clair County.

Uses Pine Tar.

Referring to the injury of G. C. H. regarding the protection of corn from crows, will give the remedy which I have used with good results for several years. Put the corn, about one peck at a time, in a suitable vessel, warm it just a little, then take pine tar, warm it to about the same temperature, and mix in thoroughly a sufficient amount to coat each kernel, then mix with dry screened wood ashes. A ten cent can of pine tar is enough for about three pecks of corn. Some may think this a tedious job, but two men will treat from a bushel to a bushel and a half in about an hour, and I can guarantee it crow-proof. If you have any corn left, it is good for the next season.—H. W. B., Arenac County.

WHY HAVE RATS?

There isn't a single farmer in the entire country that hasn't been bothered with the rat at some time or other. It is one of the worst pests that the farmer has to deal with and the losses from its depredations amount to millions of dollars annually. In addition to its destructive habits the rat is known to be an active agent in the carrying of disease which makes it doubly important that it should be destroyed.

Too many farmers neglect the piles of boards and rails that accumulate around the barns. This makes an excellent rat harbor and they will be found in a place like this, for they can rear their young without being molested. Clean up the barnyard and burn the piles of trash. Pile the boards and rails on a support about a foot from the ground and this will help to prevent the rats from making a home in them. Have some extra help and a good rat dog when destroying rat harbors. Kill the rodents and don't let them escape to some other place where they will multiply and be thicker than ever. They are noted for their great fecundity and their ability to adapt themselves to all sorts of conditions. They breed three, four, or even more, times a year and produce from six to seventeen young in a litter. Females breed when only four or five months old. It is plain to see how many rats you will have around the place if no precautions are taken.

Rats have developed so much intelligence and such extraordinary caution that attempts to exterminate them have often failed. Make concrete floors and foundations and the rats won't have any place to live. Board floors in the barns, granaries and sheds are just the place for the rats. They get under the floors and work up the dirt, making a fine place for a harbor. The farmer that has all of his buildings equipped with concrete foundations will have little trouble unless he has too many outside places where they can hide.

When a corn crib is built, choose a well-drained spot, and sink the walls about 20 inches in the ground, making them of concrete. Have the space within the walls thoroughly grouted with cement and broken stone, finished with a rich concrete floor. Rats will have a hard time living in a place of this kind. Of course, we know that there are cheaper ways of excluding rats from either new or old corn cribs. They may be effectually kept out by the use of either an inner or an outer covering of galvanized wire netting of half-inch mesh and heavy enough to resist the teeth of the rats.

Poisons, traps and cats can render valuable service in killing off the

rats that are living in a place that we cannot reach-ourselves. A cat is better than a trap every time for they can easily get a rat when he gets a little too far from his nest. Cats are good for destroying the young ones in the nest and this gets them before they are large enough to run around and do damage to the grain that is stored in the barns. Every farmer can well afford to keep a few cats around the farm, for they are worth their weight in gold when it comes to the rat proposition. It is hard to catch rats in a trap for they are just a little bit too smart. About the best success can be attained by using the wire-cage trap. Place a fish head in the trap and you will catch more rats than you know what to do with at one time. We were bothered with rats a few years ago and as we had purchased some fish we decided to place a head in the wire trap and see what kind of results we would have. We placed the trap near a corn crib one night and to our surprise we found 24 rats in the trap the next morning. The next night we set the trap again and caught 16. Pretty good work for one fish head. Before setting the trap again give it a thorough scalding, for the rats are very sensitive about coming around a place where they smell the blood of their own kind.

Be careful about putting out poisons for they may do more damage than good. The farm dog or some of the cats may get hold of the poison and die. Spread the poison in the runways of the rats where any animals or chickens can't get hold of it and the rodents will be poisoned without any danger. Don't let up on the rat killing until the entire place is cleaned out. Get your neighbor to do likewise and then you won't get any of his rats after your are all gone.

Indiana.

T. W. HARVEY.

LILLIE FARMSTEAD NOTES.

This spring has not been an early one, and it looks now, taking everything into consideration, that it will not be an extremely late one. The weather of late has been pushing the season forward remarkably fast. We have had continued cold weather in April and severe freezing, and the entire month of April was unusually dry. I like to have a good warm soaking rain early in the spring to settle the ground and warm it up. We began working the ground about the middle of April. The ground worked fairly well. The ground was very cold. In some places it was soggy and we couldn't work it as good as if there had been a good rain that had circulated down through. Yet the weather was dry and it was rather cool, and it was a nice time to put in crops. In this vicinity many of the people had their spring seeding all done in April. I was behind, as usual, and while we had our oats sown and 16 acres of peas sown on that date, we were not through by any means, but it would only have been a matter of a day or two had abundant rains not come. We, however, needed the rain so badly that one cannot complain. The new seeding of clover and alfalfa and grain already sown needed rain badly, a good warm rain, and we got it. The rain on the 24th helped out some, but it was not enough, but on the 27th and now again on the 28th, we have had plenty of rain. There is none too much and the ground will be dried off in a few days unless the rain continues, which I hope it will not at the present time.

Pastures.

Pastures are quite backward. Here it is the first of May and no one has turned out their stock, not even sheep or young cattle. Of course, we do not make a practice of turning out cattle, especially the dairy cows, until the grass gets a good start. We hardly

ever turn them out before the 15th of May and sometimes not until June. With the young cattle we are always a little slow about turning them out. The weather is so unsettled in the spring, a few warm days and then cold weather. Cattle that have been in good warm stables all winter feel these sudden changes. Not only that, but the pasture does better if you let it get a good start. You will need all of it along when dog days, and the excessive heat come, and dry weather in the summer time, and if you feed it off close in the spring there will be practically nothing at that time of the year. On the other hand, if you let it get a good start so that the cattle can't eat it down early, you will have something that will last through the drought. We want this with our young cattle, because it is quite a chore to have to feed them extra on pasture if the pasture is so far away from the barn. We needed this rain, too, for those people who have timothy meadows. They were doing nothing. The ground was too dry. These rains, however, and the warm weather, will give them a start.

The wheat crop in this vicinity and in fact, all over the state, as far as I have traveled, looks the best, I think, on the average, that I ever saw it. In our particular neighborhood there is not a poor piece of wheat. One field we sowed extremely late, that looked rather bad earlier in the spring, is coming on wonderfully. It didn't look as if a single spear of wheat in the whole neighborhood was winter-killed and it has lived through the dry April with some severe freezing, and now comes these warm abundant rains, and it simply can't help but make a good growth of straw and a good growth of wheat usually means a good crop of wheat.

Alfalfa.

The alfalfa which I seeded last year, as I stated before, made very little growth last summer on account of the extreme dryness of the season. I was afraid that it would not live. But it did. It remained green right through the dry weather but it did not make any growth to speak of. It didn't make very much growth last fall. As a matter of fact, there wasn't hardly moisture enough to wet the ground down so that it could, and last fall was not a very growing fall as the weather was rather cold. But it lived through the winter and I have a good stand on every portion of all the fields that I sowed. The fields that I seeded along the first of May are very much the best. I think I have almost an ideal stand on these three fields. I experimented with nurse crops and without a nurse crop, understand this was seeded along the fore part of May. A portion of it I sowed a bushel of oats to the acre and we cut these oats off for hay to get them out of the way so that the alfalfa could have the field to itself. On a portion I used winter rye as a nurse crop and on a portion I used no nurse crop at all. There were quite a number of weeds on portions of the field where I used no nurse crop. We clipped this twice to kill these weeds. I was afraid on some portions of the field that there was such a growth of weeds that it would practically kill out the alfalfa but it didn't seem to do so. It lived through. If one would look now you would say that those portions of the field where we used winter rye were very much superior to the portion where we used oats as the nurse crop or where we had no nurse crop at all. There seems to be a very much larger growth, but when you examine it close you find that the rye lived over the winter and that the rye is making a good growth this spring. I am going to have rye mixed with alfalfa for the first cutting. When you come to examine the alfalfa it doesn't seem as if there is very much better catch where we had the rye or where we used oats or where we seeded with-

out a nurse crop. As a matter of fact I consider it a splendid catch in all three instances. I am very much pleased and fairly well satisfied. These abundant rains the last day or two have made this alfalfa fairly jump. You can almost see it grow, and I am positive that I am going to have at least two crops on these fields this year and it looks now as if they might be abundant, too.

About four acres of alfalfa that I sowed the first of July after we had taken off a crop of early peas for the canning factory, is the poorest I have. The ground was too dry. The peas had taken out so much of the moisture. There was a nice little shower just at the time of harvesting the peas and we got right onto the field and disked it just as soon as we got the peas off, to preserve this moisture and worked it up and sowed the alfalfa. On part of the field I drilled the seed in the same as you would wheat, that is, I put the spouts of the grass seeder attachment right into the drill hose, it was drilled in. And yet with this only a small per cent of the seed germinated, not near so much as where it was sown earlier, and I haven't got as good a stand, although I believe on this field there is a sufficient number of plants so that I will get a good crop. As a matter of fact, after you get alfalfa established you don't want too many plants. One plant to the square foot will bring you just as big a crop of hay as to have many more. The fact is, that with an alfalfa field it is a question of the survival of the fittest, the stronger plants will predominate over the weaker ones, so that eventually you will not have a great many plants to the square foot anyway, you can sow the seed as thick as you are a might to, but after two or three years you will not have a great many plants to the square foot. The larger, thriftier plants will crowd out the smaller ones.

COLON C. LILLIE.

CORN PLANTER CANNOT COUNT.

Though almost human in the way it does its work, the corn planter cannot count the kernels of corn that go into each hill. This the corn grower must do in the adjustment of his planter plates before it is taken to the field. After the seed corn is germinated to test its vitality, it should be shelled by hand, butt and tip grains discarded and graded for size of kernels. The grading for size of kernels can be done by means of sieves into large, medium, and small sizes and then a suitable planter plate used for each size kernel. To make sure that the corn planter will drop the desired number of kernels to the hill at least 90 times out of 100, it should be blocked up on a clean floor and operated by hand. Plates with different sized openings should be tried out until a pair is found that will drop the desired number of kernels every time. If the plates do not work properly, they must be filed or drilled until they will. As a rule, a little adjusting is all that is necessary to give the desired number of plants to the hill. On the other hand, a poorly adjusted planter may easily offset the advantages to be derived from well selected and tested seed.

A DURABLE WHITEWASH.

To make a good durable whitewash, slack hydrated lime with hot water, making it about the consistency of thick cream. When ready to apply add enough prepared plaster to each bucketful to make it quite thick; apply with a brush. It will dry very quickly and does not rub off or slip like the ordinary wash. Mix the lime and plaster only as needed, as the plaster sets very quickly. Also wash brush as soon as you are through with it.

Allegan Co.

J. H. VIELKIND.

Horticulture.

Ward Orchard Notes.

The Ward orchards at Pontiac have become known among the progressive fruit growers of the state on account of the early productiveness of the orchard, its steady bearing, and the well colored and high quality fruit it produced.

This orchard was set in 1900 by Henry Ward, whose father was one of the earliest and most prosperous lumber men in the state. It covers approximately 200 acres of the 250-acre farm which is just outside of Pontiac. The land is slightly rolling, parts of it running to swails. The soil is of a gravelly loam, although in some places it is quite light, but it is of such character that it develops high color in the fruit. The farm borders on two of the numerous Oakland county lakes, Square lake and Hammond lake.

Sheep Manure of Great Value.

Prior to setting the orchard Mr. Ward was heavily interested in sheep, buying large numbers of them each year for feeding purposes, a single consignment in one case consisting of 20 carloads. The sheep were fed in mammoth sheds, which are still standing on what is called the ranch property, located a short distance from the orchards. The orchard property was bought so as to have a place to put the sheep manure and it is said that it was so heavily applied that it was hard to turn under. This has undoubtedly been of untold value to the orchard, as it has been one of the chief factors in its past productiveness.

Orchard Productive.

The orchard consists of about 23,000 trees, of which over 10,000 are Wag-ners, over 7,000 Jonathans, about 2,000 each of Wealthy and Duchess and over 1,000 each of Baldwin and Shiassee.

The trees started to bear when three years old, and since then have never failed of a fair crop. The largest crop of good barreled stock was three years ago, when there was over 12,000 barrels. Last year the prospects were for about 15,000 barrels but the spring frosts brought the crop down to less than 6,000 barrels.

The trees are set 20 feet apart each way, with the Wageners serving as fillers almost entirely. In a few places the trees are crowding a little but by proper pruning it is hoped, with but few exceptions, to keep the orchard intact for several years yet.

Canker and Girdling.

In the past the trunks of the trees have not been thoroughly sprayed and considerable rot canker is the result. We are paying special attention to spraying the trunks this spring and during spare time this summer shall trim out the canker and paint the wounds with lead and oil. Also, the middle of the space between the rows is the only part cultivated. This has resulted in islands of sod around each tree, which made excellent harboring places for the field mice. As a result, girdling by the mice during the past winter has been quite serious in some parts of the orchard. At present we have some of the men digging the sod away from the base of the trees with planters' hoes, and thoroughly painting all the girdled parts before they dry out too much, with pure white lead and oil.

The Spring Spraying.

We have spent considerable time this spring in repairing the spraying equipment. This has worked to considerable disadvantage in getting things started and has set our work back to quite an extent. On this account we shall make one spraying be-

fore the blossoms, suffice this year. This was started about the middle of April and finished about May 5. What we call the scale zone, or that part of the orchard which had the most scale, was sprayed first and at the strength of one to eight. The other parts of the orchard were sprayed with one to ten until the leaf buds began to open, when the strength was gradually reduced until toward the end of the spraying one to 25 was used. While the entire orchard has been sprayed it is the intention to keep one or two spray rigs working until blossoming time, touching up spots which were skipped at the first spraying.

The farm is amply supplied with buildings, there being three barns, one large spray shed on the shore of Square Lake, a cooper shop, arranged for four coopers and with storage space for about 1,500 barrels, a very large packing house which has storage capacity above for more than 5,000 barrels, and a large tool shed and implement shed. Photos and more detailed descriptions of these buildings will be given later.

Business Management.

We leased this orchard because we realized it a good business opportunity. Our past experience leads us to believe that we can make a success of it, and furthermore demonstrate the economy and practicability of scientific methods and management. Close records of everything will be kept, which will undoubtedly be the source of valuable and interesting information to the readers of the Michigan Farmer. Whether our experiences are successful or not we shall give them, since quite as much can be learned from failures as from successes. W. W.

TROUBLE DEPARTMENT.

Knobs on Apples.

Kindly tell me what causes knobs on apples, and how to prevent them. —Reader.

The chief cause of knobs or protuberances on apples is spray injury, caused by using Bordeaux mixture. Knobs from this source are teat-like projections which have a russet appearance. They are more commonly found on the Ben Davis apple than any other, as that variety is probably the most susceptible to Bordeaux injury.

Knobby and deformed apples are also caused by insects and diseases. The common apple scab is a frequent cause of such deformities. When it attacks the apple when still small, it checks the growth of the part of the apple attacked. This will cause a lob-sided apple, and one infected in several places will often present the knobby appearance.

The curculio also causes apples to be deformed in this manner. In most cases where the curculio has stung the apple the growth of the apple at that place is greatly checked, while the other parts will endeavor to make normal growth. Several stings on one apple will give the apple a very irregular and knobby appearance.

Thorough spraying at the usual recommended times, with lime-sulphur and arsenate of lead, will prevent this sort of trouble from either of the above causes. The lime-sulphur should be used at the strength of one to 40, and two pounds of arsenate of lead should be used with each 50 gallons of spray.

The currant worm and mildew may do considerable damage if the gooseberries and currants are not sprayed. Use Bordeaux and arsenate of lead.

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Does that insure correct lubrication?

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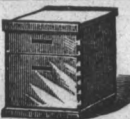
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Correct Lubrication

Explanation: In the schedule, the letter opposite the car indicates the grade of Gargyle Mobiloil that should be used. For example: "A" means "Gargyle Mobiloil A." "Arc" means "Gargyle Mobiloil Arctic." For all electric vehicles use Gargyle Mobiloil "A". The recommendations cover all models of both pleasure and commercial vehicles unless otherwise noted.

MODEL OF	1910	1911	1912	1913	1914
CARS	Summer	Winter	Summer	Winter	Summer
Abbott Detroit	A	Arc	Arc	A	Arc
Alco	A	Arc	Arc	A	Arc
American	A	Arc	Arc	A	Arc
Autocar (2 cyl.)	A	Arc	Arc	A	Arc
Avery	A	A	A	A	A
(Model C)	A	A	A	A	A
Buick (2 cyl.)	A	Arc	Arc	A	Arc
" (4 cyl.)	A	Arc	Arc	A	Arc
" (6 cyl.)	A	Arc	Arc	A	Arc
Cadillac	A	Arc	Arc	A	Arc
Carters	A	A	A	A	A
Case	A	A	A	A	A
Chalmers	A	Arc	Arc	A	Arc
Chrysler	A	Arc	Arc	A	Arc
Chevrolet	A	A	A	A	A
" (water)	A	A	A	A	A
Cole	A	Arc	Arc	A	Arc
" (water)	A	A	A	A	A
Flinders	A	A	A	A	A
Ford	A	Arc	Arc	A	Arc
Franklin	A	A	A	A	A
Com'l	A	A	A	A	A
G. M. C. Truck	A	A	A	A	A
Haynes	A	A	A	A	A
Hudson	A	Arc	Arc	A	Arc
Hupmobile (Model 20)	A	Arc	Arc	A	Arc
" (Model 27)	A	Arc	Arc	A	Arc
I. H. C. (air)	A	A	A	A	A
" (water)	A	A	A	A	A
International	A	A	A	A	A
Interstate	A	A	A	A	A
Jackson (2 cyl.)	A	A	A	A	A
" (4 cyl.)	A	A	A	A	A
Jeffery	A	A	A	A	A
Com'l	A	A	A	A	A
Kelly	A	A	A	A	A
Kissel	A	A	A	A	A
Karl	A	A	A	A	A
" (Model 48)	A	A	A	A	A
Kline Kar	A	A	A	A	A
Knox	A	A	A	A	A
Kurt	A	A	A	A	A
Lozier	A	A	A	A	A
Mack	A	A	A	A	A
" (Model B)	A	A	A	A	A
Marion	A	A	A	A	A
Marron	A	A	A	A	A
Maxwell (2 cyl.)	A	A	A	A	A
" (4 cyl.)	A	A	A	A	A
" (6 cyl.)	A	A	A	A	A
Mercury	A	A	A	A	A
Mitchell	A	A	A	A	A
Moon (4 cyl.)	A	A	A	A	A
" (6 cyl.)	A	A	A	A	A
National	A	A	A	A	A
Oakland	A	A	A	A	A
Oldsmobile	A	A	A	A	A
Overland	A	A	A	A	A
Packard	A	A	A	A	A
Pontiac	A	A	A	A	A
Pope Detroit	A	A	A	A	A
Pontiac	A	A	A	A	A
Premier	A	A	A	A	A
Rambler	A	A	A	A	A
Regal	A	A	A	A	A
Reo	A	A	A	A	A
Saxon	A	A	A	A	A
Selden	A	A	A	A	A
Speedwell	A	A	A	A	A
" Model	A	A	A	A	A
Stevens Duryea	A	A	A	A	A
Studebaker	A	A	A	A	A
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Walter	A	A	A	A	A
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Winton	A	A	A	A	A

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Gargyle Mobiloil "Arctic"

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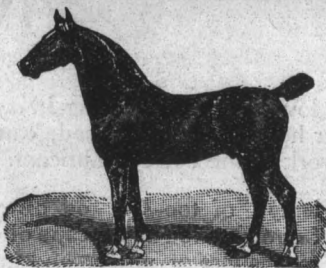
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Live Stock.

Patures and their Improvement.

VERY few appreciate the fact that pastures are constantly being deprived of their plant food. When you think of it, everything is taken off from a pasture and nothing is added. Where the animals are fed grain rations in connection with the pasture, what droppings are scattered on the pasture will add some plant food to it, but in the majority of instances these droppings are partially and in some instances almost totally wasted so far as the plant food is concerned. The droppings are left under some shade tree or by some water hole where the animals go at night, or during the heat of the day, and very little of it is put where it ought to be put. Consequently pastures, after a number of years even on good rich land, become depleted so of fertility that they do not yield anywhere near as much as they did when the land was fertile. Pasture land on creek bottom or on low ground where there is plenty of moisture and where the land is exceedingly rich will, of course, last for years and still produce a luxuriant growth of grass, but on upland where the soil is rather thin and none too fertile to begin with, the yield of grass grows less and less each year and after a number of years the pasture will not carry one-half as many animals as it did in the first place. Now the reason for this is largely due to the fact that the soil is becoming exhausted of plant food. Pasture grasses are surface eaters. If you plow this pasture and cultivate it and re-seed it you will get a new supply of plant food, but very often the pasture is on rough land that cannot well be plowed, hill-sides and the like of that, and the only way to maintain the pasture or to improve it is by applying some sort of plant food to the surface of the ground.

Nothing is better than to top-dress with good stable manure. If the land is smooth enough so that one can use the manure spreader this is the best way to apply it because it is evenly distributed. If the land is so rough you cannot draw the manure spreader you can still apply the stable manure by hand. A field with almost no grass at all can be brought into a good stand of grass and it will grow luxuriantly by top-dressing it with stable manure. This can be done by driving it along the top of the hill and throwing it from the wagon down the hill, giving the fork a good twist so as to evenly distribute the manure. I know of some people who would smile at the idea of applying stable manure to a pasture. Our country, of course, is rather new for such practice as this. A few years ago a neighbor who saw me applying stable manure on the thinnest places in the pasture, and it was thick sod pasture, too, and yet there were little ridges, or knolls, that were thin and did not yield very much, and we were applying stable manure to these. He remarked that we must have so much stable manure that we had to throw it on the pasture. He thought it was extravagant, or unnecessary, or waste, to put stable manure on a pasture, and yet we can bring up these poor places in the pasture, even sand ridges where but little grass grows naturally, by giving them every year or every other year, a good application of stable manure and make them productive.

Pastures are liable to get sour and if they are it is difficult to keep clover in the pasture for any considerable length of time. June grass even does not do well in a very acid soil, nor timothy. Some of the wild grass-

es grow fairly well in a soil that contains considerable acid, but the better pasture grasses, those that are the most valuable for this purpose, will not do well in a soil that is acid. If your pastures are acid it will pay to put on lime. It can be put on at any time, late in the fall or early in the spring, or in the summer. If hydrated lime is put on it will act more quickly, and is more effective. It should be put on either in the spring before the grass starts, or late in the fall, or put on during a dry time in August when the grass is dormant. If it is put on rapidly growing grass and the grass is wet so that the lime will stick to it, it will be injured some by the lime because it is caustic. Ground limestone can be put on at any time without this effect but it does not act as quickly and is not so soluble in water.

Where one hasn't stable manure, and can't get it, the pasture can be top-dressed with commercial fertilizer. There is one particular place in my cow pasture that is an upland sort of a hill. Before I purchased this land it had been cropped continuously and then I seeded it to permanent pasture. It didn't grow luxuriantly. We didn't get a good stand, the reason was because the ground was not properly fertilized. I didn't have the stable manure to put on this and it was not very convenient to apply it because it was a bad place to get to. So this land of about one and a half or two acres we top-dressed with commercial fertilizer. We simply sowed it broadcast and did not even harrow it. This soluble fertilizer will be carried into the soil to the roots of the plants by the first rain that comes. A good top-dressing of commercial fertilizer will last for several years. It is not necessary to top-dress them every year, providing one gives a good application of 300 to 400 pounds. It might be better to give an application of about 200 pounds every year.

Another thing we ought to do to maintain our pastures, and that is, we ought not to pasture them too close, especially early in the spring. Grass ought to get a good start. A good top growth also encourages a good growth of roots. If you pasture it off too close early in the spring there is little chance for this growth and the pasture will not be as productive as if the grass is allowed to get a good start before being heavily stocked.

COLON C. LILLIE.

LIVE STOCK NEWS.

It is learned on unquestionable authority that the movement of cattle from Texas pastures to Oklahoma pastures, usually from 6,000 to 7,000 cars, will this year not exceed 2,000 cars. The drought last year forced out many Oklahoma cattle, and it is impossible to make good the shortage this spring, so that the fall marketing promises to be the smallest in years. In Texas there is a general movement to get back into the cattle breeding industry after being neglected for years. All cows of proper age, heifers and yearling steers are in good demand at extremely high prices.

Eastern dealers and manufacturers have been traveling through the western sheep growing states and endeavoring to make further contracts for the spring clip of wool, but trades are reported as fewer than usual, sheep owners refusing to make the requested small reductions in prices. It is stated that about 40 per cent of the Montana clip and about 25 per cent of the Wyoming clips have been contracted for to date, while about one-half of the Idaho clip is reported to have been sold, and about 80 per cent of the clip of Utah is reported to be under contract. Foreign wools are being imported in large amounts, and in a recent week 12,000,000 pounds were unloaded in Boston.

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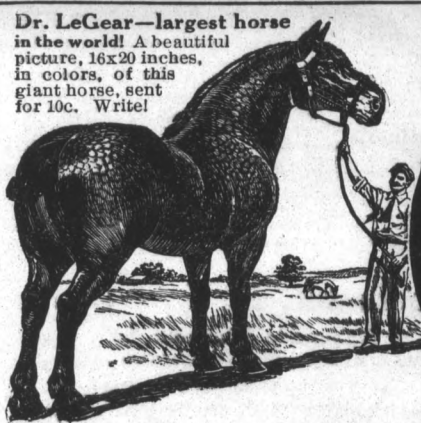
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2. We sell them worth the money. But rarely has a man come to buy at Brookwater without finding what he wished at a price he was willing to pay.
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CONDUCTED BY COLON C. LILLIE.

"SEEING IS BELIEVING."

The man who first voiced the statement, "seeing is believing," voiced a fundamental truth, notwithstanding all arguments to the contrary. I have heard a great deal about bovine tuberculosis and its terrible ravages among cattle, together with consequent effects upon those who consume milk from tuberculous animals. To those who were fortunate enough to see the autopsy on a tuberculous cow at the recent meeting of the Michigan State Veterinary Association, the "white plague" scare becomes a reality and the details of its horrors become more vivid.

The cow upon which the autopsy was performed was, to all outward appearances, in good health and with a fairly good covering of flesh. She probably looked as good or better than two-thirds of the cows in Michigan this winter. A careful, exterior examination previous to the killing, showed that she was breathing pretty often, but otherwise nothing abnormal could be detected. But when an examination was made of the internal organs, it was found that the lungs were about three times as large as normal and other of the internal organs were affected. Dissection of the lungs revealed a condition which was nauseating and revolting. It is well known that after the lesions have been formed, they may heal up and the abscess becomes filled with lime. I saw Doctor Giltner cut through some of these with a sharp knife. Many of these calcified lesions were the size of a hen's egg and the knife rasped through them like it would through so much sand. Then some of the active lesions were cut into and from the incision thus made, a thick cream-colored pus oozed out. The sight was terrible and one which will be remembered by all those who saw it.

The teaching is this—who can tell by the looks of a cow whether she has tuberculosis or not? In a few cases, an expert can tell it by an external examination but the tuberculin test rarely fails to convict a diseased animal. Even the basest criminal would not be guilty of asking his family to consume the product of such an animal. There are a great many farmers who do not want their herd tested because some of the cows might react and would be sacrificed, but if every farmer in Michigan could have seen the autopsy which I saw, I will wager ten to one that they would have gone home and had their cows tuberculin tested at once. A hideous monster lurks in every spoonful of milk produced by a cow having tuberculosis of the udder.

There is, however, one fortunate feature about tuberculosis, and that is that the organisms do not grow and multiply in the milk. This is one of the exceptions for most pathogenic bacteria find milk a very good feeding and breeding place.

Ingham Co. I. J. MATHEWS.

A RARE OCCURRENCE.

We have what I think a very rare occurrence in the cow business. We have a three-year-old cow which was due to freshen April 18, 1914.

On March 31 she came in, dropping a male calf which came dead. We milked her about ten days but did not use the milk, as it did not seem to be good, and she gave only a small amount.

While milking her the seventh day I noticed signs of another calf and she was giving less milk every day. So we dried her up at once, and in a few

days we could plainly see she would soon be a new milker again. She did not disappoint us.

April 19 she dropped the second calf, a nice large fat male calf. Both cow and calf are doing nicely.

I think something must have happened her, to lose the first calf. Of our herd of 47 milch cows this is the first chance of twin calves we have had.

Macomb Co. DALLAS FIELD.

DOES FEED AFFECT THE QUALITY OF MILK?

Does feed have any effect on the quality of milk? In other words, can one feed a Holstein cow so that she will give a higher per cent of butter-fat in her milk?

SUBSCRIBER.

It has been stated in the Michigan Farmer many times that you cannot, except only temporarily, change the per cent of butter-fat in milk. The richness of the milk or quality of the milk, is fixed by the individual and not by the feed. However, when a cow has a sudden change of feed, as in spring when changing from the dry ration to an entirely succulent ration, the system of the animal is so out of normal that she is liable to produce a quality of milk different from what she produced on dry feed. The same change can be brought about in the winter time by sudden changes of food which throws their system out of normal condition. When the cow becomes used to this feed and gets in normal condition the per cent of fat returns to its normal limit as fixed by the breed and the individual. By selection and breeding the per cent of butter-fat can be changed in the breed. The question is whether the butter-fat produced by a single individual can be changed by giving a different ration. If this could be done then we could feed a Holstein cow such food that would make her milk as rich as Jersey milk. We know that is not the case, however.

THE MILKING MACHINE.

A question in which we are much interested in, and have tried to post ourselves in regard to its use, both by reading and calling on those who have them, and our conclusion does not agree with that of the writer in answer to H. S. T. in Michigan Farmer of May 2.

Our investigations have not been with one kind of machine only, but with different makes. We found one man who had used his machine over five years. He had made many tests for advanced registry and had done the milking with the machine and claimed that his cows gave more milk by machine than hand-milking.

At another place we also found them doing official testing and using the milking machine. This man told us of milking a very short-teated heifer which took him a full hour to milk by hand. At the third milking he used the machine and milked her in eight and one-half minutes.

At another place we found a machine in use and the man had but eight cows, but very good ones. He informed us that he had practically lost the use of his hands and was obliged to get a machine or sell the cows. So he bought a machine and was fully satisfied that he could get more milk by the use of the machine than by hand. In every case we investigated, those using machines seemed to be well satisfied.

We came home and ordered a machine. After a trial we may be able to give further information in regard to this question.

Hillsdale Co. W. G. BOYD.

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DETROIT, MAY 16, 1914.

CURRENT COMMENT.

Since our last issue went to press we have received a copy of a proclamation by the Governor, designating Friday, May 15, as clean-up day. The scope of the Governor's proclamation is broad, calling attention to the desirability of eliminating economic waste of all kinds, and referring especially to the desirability of cleaning up the winters debris, not alone as a means of eliminating the danger of destructive fires, but as well to eliminate the breeding places of disease producing bacteria. It urges as well that all public officials and civic organizations unite in urging the importance of this work and that all schools recognize the day through fire drill exercises and discussions of the best methods of the conserving of life and property.

In this connection the State Fire Marshal has issued a bulletin calling attention to the desirability of making the activities of the spring clean-up day so thorough as to make it in fact a fire prevention day. As illustrating the need in this direction he refers to the statistics which show that the annual fire loss of the United States is \$2.50 per capita, as compared with an annual per capita fire loss for western Europe of 33 cents.

Too often we farmers, knowing that efforts of this kind are primarily directed toward securing a general spring clean-up in the towns and cities, infer that there is no reason why we should give any attention to them. But will we find this to be true upon reflection? Are there not many little jobs of cleaning up around the out buildings and on the farm, if not about the house, which we are continually putting off until a more convenient season, which could be done in a short time if we would but get at them? If so, let us attend to them now, if official clean-up day has passed without seeing them done.

At the present time Marketing the United States Department of Agriculture is engaged in a campaign to secure better handling of American wools to the end that the domestic product may not suffer from the standpoint of market quality and grading when compared with foreign wools offered in the American market. In addition to sending out circular matter giving instructions to growers regarding the proper handling of their wool clip, a conference of interested parties has been called to meet in Washington early in June for the dis-

cussion of the problems involved. Among the topics which have been suggested for discussion at this conference are, the manufacturing value of American wools; the improvement of farm and ranch methods of handling wool; the possible adaptation of foreign methods to American conditions; improvements in methods of marketing; improvements in methods of breeding; the standardization of the wool clip, and the prevention of damage by dogs and predatory animals. Briefly stated, the advice given in the Department's circular matter regarding the handling of the domestic wool clip may be summarized as follows: Sack ewe, lamb and buck fleeces in separate sacks. Shear black sheep separately and keep the fleeces separate. Tie the fleeces with paper twine, which does not adhere to the wool. Remove the tag or dung locks and put them in separate sacks marked to show their contents.

While it may be a comparatively simple matter to secure a desirable standardization of the domestic wools produced on ranches by this means, the farm conditions in Michigan and other important wool states are so different that the results of such efforts are bound to be slow in making their appearance. The flocks are small and scattered, and the only present avenue of marketing wool which is open to the small producer is to the local wool dealer. In the earlier days when Merino wool was one of the principal farm products of the state, Michigan wool growers made a practice of washing their sheep. Then the tags were washed separately and a proportionate amount of this wool included in each fleece. Later, with the general introduction of mutton sheep, washing was discontinued and earlier shearing was generally adopted. These wools were generally fairly clean, but occasionally a dilatory farmer would include a bunch of dirty tags in his fleeces and others would permit their sheep to run to a straw stack with resulting chaffy fleeces with the consequence that Michigan wool gained a bad reputation in the market. Notwithstanding a very considerable improvement in these conditions, this is still often offered as a reason for low bids on the local clip.

So far as the grading of the wool on the farm is concerned, it is an impossibility in Michigan. Michigan growers can, however, have their wool clean and suitably tied, as most of them now do. But under existing conditions it is difficult to see how the marketing problem can be solved, other than by stimulating competition among local dealers, since the flocks upon our farms are too small and too scattered to make co-operative marketing seem feasible. Michigan wool growers will, however, be interested in the efforts of the Department along educational lines and will await with interest the outcome of the proposed conference.

The executive committee of the United States Live Stock Sanitary Association, at a special meeting held in Chicago last week, passed strong resolutions favoring rigid state regulation and control of hog cholera serum laboratories operated within the several states without a federal license. These resolutions, which included specific recommendations as to the requirements which should be enforced in order to insure the efficacy and safety of the hog cholera serum produced, were addressed to the governor of each state, and in view of the expressed belief of the committee by which they were formulated that serum is being placed on the market which may be not only unreliable, but a detriment to the hogs to which it is administered, the authorities having hog cholera work in charge in the various states, will undoubtedly be di-

rected to investigate the matter in their respective states and exercise such authority as they may have to insure the production of reliable and efficient hog cholera serum in the commercial plants within their respective jurisdiction. In cases where sufficient authority is not now delegated to the sanitary officers of any state, legislation should be recommended and pushed to the end that the proper officers may be clothed with such authority.

Hog cholera has been on the increase in this country during recent years, notwithstanding the effort which has been made toward its control. Our scientists have apparently found a means of aiding materially in its control and final eradication in the serum produced under the so-called Dorset-McBride-Niles system, and it is eminently proper that state as well as federal governments should insist on the keeping of all commercial products of a similar nature up to the official standard.

A day's drive through the open country at this season of the year, when the spring road repair work is in progress, will convince even the skeptical that in many progressive communities the work of road improvement is being conducted in a much more satisfactory manner than was the case a few years ago under the old law. But it is a far cry from the kind of road maintenance which was practiced a generation ago under the operation of the old highway labor tax and that ideal economy in road maintenance which will at all times insure the most efficient roads at a minimum of total cost, and the last mentioned ideal has not yet been reached. Probably it will not be reached until the time comes when all road maintenance work is performed under the direction of experienced men, if not trained engineers, but the pointing out of a few common errors in the matter of road maintenance may be helpful to that end.

One of the most common errors made by the inexperienced man who directs local road improvements where hills are being graded or depressions filled, is in the taking of proper precautions to prevent the washing out of the work done or of the side of the roadway from which material has been taken for nearby use. It is far better economy to put in culverts or sluices where needed before nature has called attention to the need, and a few loads of sod dumped at the right place will often save a serious washout at the roadside, yet these are factors in road maintenance which the inexperienced overseer is likely to overlook. Another common mistake is the sacrifice of safety and efficiency of roads to the economy of labor where fills are made by leaving them too narrow. But perhaps the most common mistake of all which is made by the highway official comes from his desire to please the people whom he represents in this capacity rather than from error in judgment, in that too much in the way of special improvements may be undertaken at the expense of general maintenance, which would make all the roads more passable. Properly used, the King drag can be made of great service in this latter direction and the wise overseer of highways will contribute greatly to the efficiency of the roads under his care, as well as to his own popularity as a local official, by its more liberal use.

ADVERTISED GOODS COST NO MORE.

Some people think advertised merchandise costs more than unadvertised. Just the reverse is true; it usually costs less for the same quality.

The reason for this erroneous impression is that goods offered in com-

petition with advertised goods are often cheaper in price, but they are also more cheaply made.

Advertised goods must be well made, for they sell on their reputation, while imitations are designed to sell because of their lower price.

If you keep informed on the advertised lines of goods, you know which ones are standard.

HAPPENINGS OF THE WEEK.

National.

The United States armored cruiser Montana, with the bodies of 17 blue jackets and marines who gave their lives in the recent capture of Vera Cruz, arrived at New York Sunday.

Mme. Lillian Nordica, the leading American prima donna, and one of the most finished sopranos in operatic history, is dead at Batavia, Java, where she had gone for her health. She was born on a farm near Farmington, Me., in 1857.

President Wilson has issued an order to the commander of Federal troops in the Colorado strike zone to stop the importation of any strike-breakers and to disperse to their homes all non-resident miners.

One person was drowned and two rescued after much difficulty, from the waters of Baltimore Bay, Mich., May 10. The sail boat in which they were riding capsized.

C. W. Post, the millionaire food manufacturer, of Battle Creek, committed suicide at Santa Barbara, Cal., last Saturday. He recently underwent an operation and has since been reported to have been suffering from cancer.

Railroads estimate that 500 new settlers came to Michigan each month during March and April of this year. A majority of these new families come from states to the south, particularly Illinois, Indiana and Ohio.

A matter of wide-spread interest is the expected removal within a few months of the Chicago general produce commission houses located for many years along South Water Street to new quarters, not yet made public, but expected to be near the new railroad terminals. An enormous business is transacted daily on South Water street in veal, butter, eggs, poultry, vegetables, fruits, berries, etc. Cost of construction of the new quarters for these markets is estimated at somewhere between \$20,000,000 and \$30,000,000, and it is estimated that the change will bring about a saving of about 35 per cent in operating, besides an extension of general business in country produce.

The United Confederate veterans are enjoying their twenty-fourth annual reunion at Jacksonville, Fla. The veterans have endorsed President Wilson's attitude regarding the Mexican situation.

Foreign.

The rebels of Mexico are making general assaults upon all strongholds in the northern part of the country. The important cities are Saltillo and San Luis Potosi and the ports of Mazatlan and Tampico. These points are being attacked by forces aggregating over 35,000 troops.

During the past week affairs in Mexico have not been so promising of peace as they were the previous week. While Huerta is still agreeable to the plans of settling differences with the United States by means of arbitration rather than by the sword, and has sent his envoys to deliberate with those of the United States, Argentina, Brazil and Chili at Niagara Falls, Canada, it was reported that the Mexican chief is importing arms from Germany and that the Washington administration is contemplating sending 10,000 additional troops to aid General Funston, who has charge of the land forces. The rebels refuse to join the armistice and are continuing vigorously their campaign against the posts occupied by Huerta and commanding roads leading to Mexico City. The latest report tells of activity against Tampico, where the rebels command as many men as are defending the city. The great oil tanks in the vicinity of that place are considered a menace, as by losing their contents and setting fire to the fluid it is possible to destroy the city.

Earthquake shocks about Mt. Etna Sicily, Friday and Sunday resulted in many deaths and the destruction of much property. It is impossible to learn the loss of life as the heat and the interrupted condition of lines of communication prevent close investigation and the dissemination of information. Several villages are believed to have been wholly or nearly destroyed, and hundreds of persons are victims of the disturbances. Natives are fleeing to places without the danger district. Aid is being sent from this country.

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION



The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

A Story of Real Achievement. By One Who Assisted.

BORDERING the banks of the Kalamazoo river at a certain point in its course through southern Michigan lies a country village. In many respects this little burg differs not at all from hundreds of others of equal size in this commonwealth. There is the railroad station with its grain elevator towering alongside. At a little distance the belfry of the village church rises above the tree tops. The ancient grist mill, once a flourishing flour mill before the days of the modern "patent" product, still stands casting its shadow into the pond. Nearby is the village blacksmith shop where four generations of horses have stood patiently on three legs while submitting to the ordeal of shoe fitting. The schoolhouse is there, of course, and the inevitable general store. All these characteristics are shared with other similar villages, but in one feature does it differ materially, and it is of this particular feature that I want to tell you.

Time was when the village cemetery was an exact counterpart of the burial plots so often found in rural communities. Headstones were tottering or had fallen prone into the tall grass. Here was a terrace and there a hollow, with many an unsightly mound of earth left to be covered over with weeds and brambles. Foundations were sunken and awry. The trees had been unacquainted with the pruner's shears for years and in places their low sweeping branches had killed out the grass. In short, all conditions combined to present a generally unkempt appearance. To crown it all, the sexton, whose duties took him to the cemetery semi-occasionally, had been allowed to use the most conspicuous corner for a rubbish dumping ground. Indeed, one could easily have mistaken the place for a portion of the Deserted Village of Goldsmith's tale.

But fortunately for the people of this community, there dwelt in their midst a public spirited woman who not only had ideals but good, practical ideas. She was not a native resident, having come to live in the vicinity since her marriage; but she was possessed of an altruistic nature which found expression in an interpretation of that adjective which I once read:

"Do all the good you can,
In all the ways you can,
To all the people you can,
Just as long as you can."

When time had emphasized the feeling that her husband's people were her people, and his home, her home, in memory of the devoted father-in-law whom she had known but to love, and the many dear friends of passing years, the neglected burial spot appealed to her as a field of endeavor and upon its transformation she bent her energies. She had won the interest and hearty co-operation of her husband and a few loyal friends which made the task of interesting others in her plans more easy.

An incentive to action was furnished in the knowledge that they would be but continuing the work of a cemetery association which had been organized in 1839 and re-organized and enlarged in 1868 by a number of

the sturdy farmer pioneers of the vicinity but which, upon their deaths, had gradually become non-existent so far as any practical work was concerned, whereupon the cemetery had fallen into the condition of disorder previously mentioned.

However, the memory of the good work of these early settlers proved an inspiration to those of the present day and filled with a desire to carry on this work until some definite results should be attained, our friend raised, by subscription, a considerable sum for the straightening and re-setting of tombstones on permanent foundations and the grading of lots. More than sixty headstones were lean-

ing, fallen or broken when the work began. Indeed, one marble slab was found fully six inches under ground, with a well-sodded turf covering the soil above it. Its discovery was due entirely to one of the older residents of the village whose home, when a child, adjoined the cemetery and who insisted that a stone had stood upon that spot.

The work was hard and discouraging at first, but from the beginning a distinct plan was kept in mind to carry out the most approved methods of modern cemeteries whenever consent to do so was granted by lot owners. To a great extent grades and terraces were done away with; uneven surfaces were smoothed; trees were pruned or cut out entirely where it seemed best, and after some weeks of strenuous labor a decidedly changed appearance in the cemetery rewarded their efforts.

Realizing that order and system are essential to success in all business affairs, the workers felt the need of an organization which would be properly recognized as a corporate body. While the old organization had served

a useful purpose the demand was for one that should be legally stronger; and that with business conducted under state laws might become a helpful factor in the wide movement for cemetery improvement.

Accordingly early steps were taken toward incorporation of the old association and after a number of weeks this was accomplished under Michigan Statute Act No. 87, of the year 1855, with amendments thereto; the lot owners, or owners of rights of burial, being the stockholders in the new association.

Then followed the election of a board of nine trustees and at their first meeting officers were elected, by-

invested in a bond bearing four per cent interest, together with an accumulating amount in the savings bank at three per cent.

A deposit of \$50 by cash or note is required for perpetual care of lots containing 480 square feet; and on lots of greater or less area the sum required is in proportion. As the interest on these several sums is deemed necessary for their proper maintenance a by-law of the association is that no lots in future shall be sold without this provision. "Care" means that the lots shall be kept lawn mown, the surface kept leveled and in good condition, and any monument or marker in good repair.

Lots outside the Memorial Trust Fund are cared for by annual assessments, due in advance, May first of each year, and as long as assessments are paid there is no difference in care given. The amount of the assessment is computed at three per cent on the sum that would be necessary to deposit for perpetual care of the lot, except that no lot is assessed less than 75 cents. Lots on which assessments are not paid are mown usually twice a year, the money for the purpose taken from the general expense fund.

A provision of the corporation law is that any surplus not needed for the care of a contributor's lot may be expended upon ground reserved from sale but not upon any other person's lot. Many improvements will be possible from time to time through the increase of this surplus.

The monies of the association are divided into three funds, designated as Memorial Trust Fund, General Expense Fund and Care Fund. The first has already been explained. The second fund is re-imbursed from the sale of lots and such profit as may come from foundation work, which work the association performs for the individual lot owners at a stipulated price. To the third fund, the Care, or Working Fund, is transferred each year's interest on the Cash Memorial Trust Fund, interest on memorial notes and assessments for annual care. From this fund is paid all labor for lawn mowing and otherwise improving lots thus provided for.

To obviate the danger of tangled business problems arising, a complete system of book-keeping is demanded that shall show in black and white at all times the condition of financial affairs. This has been found indispensable in connection with the work of the association and the books kept by both clerk and treasurer aim to be a complete record of all transactions and inspection is invited.

The annual meeting of stockholders is held on the second Monday in May. The ownership of a lot or right of burial entitles the holder to one vote which he may cast in person or by proxy. One vote is also granted upon lots owned by several heirs, subject to the same conditions. During the past year ninety-five lots have been cared for and much work of a general nature has been done.

An annual event for the past three years, while so much needed to be



An Association well Organized and Supplied with Adequate Funds Can Transform the Unkempt Cemetery into an Attractive Landscape.



When Broken Markers were Restored, Terraces Leveled, Brush Removed, the whole Community Began to Show Enthusiasm in the Work.

laws adopted, and a Memorial Trust Fund established for perpetual care of lots. The nucleus of this fund was a bequest of \$75 from a lady who had relatives buried there.

From a small beginning the Memorial Trust Fund has already grown to considerable proportions. At the present time it consists of more than \$1,000 in money and \$1,900 in memorial notes.

One of the members conceived the idea of notes for this fund being accepted by the association. The interest, not less than three per cent, due May first, annually, cares for the lot on which note is given. A note may be paid at any convenient time or left as a claim against one's estate. The plan has worked out most satisfactorily and the notes held by the association are considered among its most valuable assets. By this method the corporation is relieved of the care of the money until such time as the notes are paid in.

The cash Memorial Trust Fund is to be invested "in such safe and productive securities as the board of trustees shall determine," and is now



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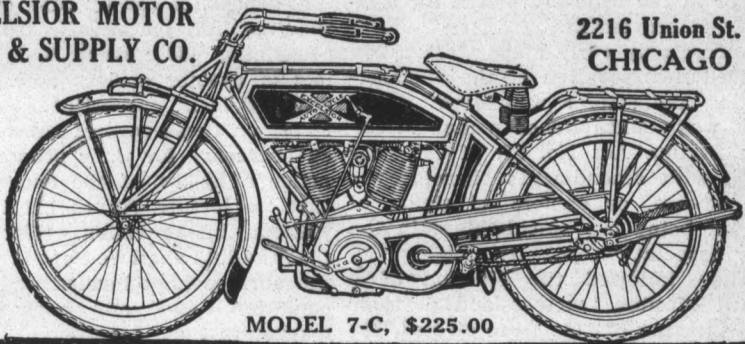
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done, has been a "Work Day," which occurred about the last of May, before Memorial Day if weather conditions permitted. On these days a goodly company assembled, armed with scythes, lawn mowers, rakes, spades, shovels, wheelbarrows and saws, and from morning until sundown the slogan was, "Work, for the Night is Coming!" At noon a bountiful pot-luck dinner was served by the ladies in an adjoining house which the owner kindly opened for the occasion. All of this work was freely given and resulted in a considerable amount remaining in the treasury to be expended in other improvements.

The first work day was purely an experiment, though our dauntless Lady of Achievement did not doubt its success for one moment. There were many, however, who did and it was amusing to see the half-hearted manner with which they entered upon the work, changed to whole-souled enthusiasm as the day advanced. Indeed, to paraphrase a familiar quotation, "Those who came to scoff remained to work."

Members of the association are working at present for a chapel and receiving vault. Many are brought back to this cemetery who have no kin living in the village. If services are held at all they must be in the church a half mile distant. Plans are already on foot for the realization of this dream of a chapel and the fulfillment will come, we doubt not, in the near future for those interested are full of zeal and are working hard toward the goal.

Indeed "Hard Work" has been the watchword of the faithful. Can you imagine the labor and thought which has been expended in tracing the remnants of the old pioneers' families throughout our vast country? Letters

without number have been dispatched from Maine to California, all expense (which has amounted to dollars) having been borne by the writers, the only compensation being the enlistment of the interest of those addressed. It is gratifying to note that these letters have met with a generous response, only a very few remaining yet unacknowledged.

Some views of the cemetery as it now appears are herewith given. Unfortunately (or perhaps fortunately) no view was ever taken "before treatment," three years ago. It is probably just as well. It would not have been a pretty picture and anyone who has ever seen a neglected country cemetery can conjure up a view in his own mind which will be a perfect likeness.

Those of you who, when children, reveled in the pages of Gulliver's Travels will recall that, "the king gave it as his opinion that whoever could make two ears of corn or two blades of grass to grow upon a spot of ground where only one grew before, would deserve better of mankind and do more essential service to his country than the whole race of politicians put together."

Such might be said with equal truth of the one woman who made possible this Story of Achievement, for while she has been greatly aided by husband and friends, her undaunted enthusiasm and persistent effort have been the main factors in the resultant success.

And if this simple narration of the transformation wrought by a small band of workers shall prove an incentive to others who have in their midst a neglected "God's Acre," the writer will feel her humble effort not in vain and she who inspired that effort will rejoice that her work has been deemed worthy of emulation.

Interesting Facts About the Honey Bee.

By Z. I. DAVIS.

A QUICK glance at a bee's face would suggest that it has only two eyes. But after close observation, three small eyes may be discovered half way between and a little above the other two eyes. They are hidden away under the down, and can not be seen unless the tuft of hair is shaved.

Perhaps someone says, "Then a bee has five eyes. No wonder that it can fly so straight and swift to the flower that it is seeking." We find after examining the little insect more closely, that each of the two large eyes on the side of its head is made up of about 6,300 tiny ones, which gives it 12,600 plus the other three eyes above mentioned. The fact is, the two large organs of sight are called compound, because of their great number of "facets," and are very far-seeing.

The need of this little creature's strong sense of vision is obvious, since it is obliged often to fly many miles, seeking for flowers from which to extract the delicious sweets.

The remarkable triad of eyes on the top of its head, are near sighted, so that the honey bee is able to see either at a long distance or a short distance.

Instead of eye lids, it has long hairs that protect those delicate and much used organs, and prevent their being harmed by the dust and pollen. When it makes its toilet, it combs its eyes as well as its head.

Its long, strong tongue is also very wonderful in the manner of its construction and working. Watch a bee as it lights on a blossom that is too tiny for it to enter. It thrusts its queer, brown tongue out and lowers it into the rich, fragrant depths of the flower, gathering up a full share of nectar.

This curious tongue is equal in length to that of its body, and as it has no mouth large enough to hold it, it folds it up neatly and packs it away

in its proper place beneath its head. Although it is so strong, it is flexible and thread-like in its appearance and is wrapped in two hard sheaths of horny-like substance.

The tiny place given the bee to carry its nectar in, is very interesting. It is a honey-sac so small that it looks like a soap bubble, and is no larger than a sweet pea seed. It is found in the upper part of the lower half of its body, just between its wings.

This little jug-like bag does not hold more than one drop of flower sweets. After gathering it with her hairy tongue, she swallows it, and then it goes into the little bubble-like honey jar. But she takes it home for the bee babies to eat instead of eating it herself.

Why is it that when the bee swallows the pollen with the nectar, that the honey found in the comb is always clear? It is because the bee puts the nectar through a strainer in the honey-sac. Every bee strains its sweets before depositing them in the cell. By the perfect action of a set of muscles, all the pollen is strained out and the clear honey is allowed to go into the comb.

FLORAL FLAGS FOR DECORATION DAY.

By M. PELTON WHITE.

Flowers, especially long-stemmed flowers, are usually scarce on the 30th of May. Last Decoration Day some school children made floral flags to place on soldiers' graves. Oblong box covers, most of them belonging to shoe boxes, were filled with damp sand. The stripes and field were drawn in the sand with sharpened sticks or pencils and filled in with alternating rows of red and white daisies for the stripes and vetch (commonly called wild pea) for the field of blue. A few white daisies scattered in the vetch represented the stars. Any small flowers of suitable colors may be used. The moist sand will keep them from wilting.

Woman and Her Needs. At Home and Elsewhere.

Once Again Be Thankful.

I AM not as ardent an admirer of Ralph Waldo Emerson as I might be, but for years I have been devoutly thankful that he wrote that essay on "Compensation."

"For everything you have missed, you have gained something else; and for everything you gain you lose something."

"The farmer imagines power and place fine things. But the President has paid dear for his White House. It has commonly cost him all his peace and the best of his manly attributes. To preserve for a short time so conspicuous an appearance before the world, he is content to eat dust before the real masters, who stand erect behind the throne."

While it would be hard to imagine the last clause true about one or two of our later presidents, it nevertheless follows that we do not know the price paid for position by any of the great ones we sometimes envy. If we did we would probably be content with our own humble lot, where if we do not attract attention we are at least of so little importance that no one troubles us. It all resolves itself into the indisputable fact that what you miss in one way is made up to you in some other.

If you do not own property, you don't have to pay taxes. If you haven't fine clothes, you do not have to take care of them. If you are minus cut-glass you needn't worry for fear it will be broken. And if you haven't an automobile the price of gasoline never troubles you.

So what your friends and acquaintances have should never be a cause of annoyance to you. If you knew all of their life you probably would not exchange places with them. For six months I have envied a woman whose husband's work takes them from city to city. In the ten years of their married life they have lived in 33 cities and in 10 different states. I have secretly wished that such a happy fate could be mine. Think of the sights I could see, the people I could meet, the knowledge I could pick up, the "CULTURE" I could acquire. Besides, there would be the freedom from housework, for, of course, when you may only live in a city a couple of months it would never pay to keep house. I have compared this creature's happy, care-free life with my sordid existence among pots and pans, and wondered dismally why my husband insisted upon sticking to one job in the same town when he, too, might travel about and see the sights.

Yesterday this happy woman and her husband unbosomed themselves to me. It was after a dinner in our home, which I feared they would not enjoy because it was so different from the fine fare they usually had.

"This is the first time in six years we have lived in one town long enough to be invited into a real home," began the wife. "I had almost forgotten what a home was like. If you could only know what we've endured, living about the country with all our worldly goods and chattels in a trunk, trying to bring up two children in transit, you would pity us from the bottom of your heart."

"We haven't money enough to go to the first-class hotels and boarding houses, and it's either a fourth-rate boarding house or 'rooms furnished for light housekeeping with cockroaches free' for us," she added bitterly. "Just now we have an assortment of old furniture in three rooms, with two stoves for heating and the only bathroom, an unheated room downstairs. Our coffee pot is an old

enameled basin with half the glaze chipped off. Our dining-room and kitchen are one small room, where we turn from the table and toss the bones into the kitchen sink without having to get up. We haven't a closet in which to hang a garment, and children's wraps and books and papers are all piled in confusion on bed and box couch. I haven't a chance to be tidy or to teach my children any habits of order and neatness. It takes all my time to keep them hushed up so they won't bother the rest of the roomers so we'll get put out. The poor little things aren't being brought up at all. They're being yanked across the continent to the tune of 'For goodness sake don't be so noisy.' They don't know what a real mother and father are, we are only the people who crush out all their play instincts for fear they'll annoy some nervous person.

"If I had a home of my own, if it was only two rooms, but there was nobody else over me or under me or alongside of me, I'd never ask another thing of life."

"Yes, but think of all you have in place of it," I began. "Think how you have traveled and how much you've seen."

"Seen," she exploded. "How much can a woman see in a city she knows nothing about, when she has two small children, no mother or sister to take them off her hands for an hour or so, no money to hire help, and her husband away at work all day? I've seen a lot. I was in Washington six months, and never got within gunshot of the White House. In Boston three months and never glimpsed a library or art gallery or public building except from the outside as we rode by on the street cars. In New York I never got to Coney Island, and here in Detroit I have never even got over to Belle Isle. I've lived in many wonderful cities but all I've seen in them has been depots, ten-cent stores and cheap rooming houses."

My own humdrum existence, with its regular duties, but comfortable home, congenial surroundings and few good friends, assumed a different look after her bitter invective against the sordidness of her life. It was the old law of compensation, we've missed traveling around, but we've all been comfortable. If the children want to shout and kick around, there is no one to complain but the immediate family. They've always had their own room, one of my friend's bitterest complaints is that her children have never had their own room, they've always had to sleep on a box couch in the sitting-room. There has not been excitement, but there has been safety.

I've often promised myself I'd never envy anyone again. This time I hope I'm cured. I am going to try at least, to remember my compensations.

DEBORAH.

HOME QUERIES.

Household Editor.—Please explain what the abbreviations stand for in crochet pattern of March 28. I do not understand what "d" stands for and "tr."—F. J. C.

Terms Used.—ch, chain; s, single crochet; d, double crochet; tr, triple crochet; *, repeat; st, stitch.—E. L. L.

Household Editor.—How many teaspoonfuls in a tablespoonful?—C. K. Three.

Household Editor.—How much time should be allowed to a roast of pork?—Mrs. C.

Twenty-five minutes to the pound in a slow oven.

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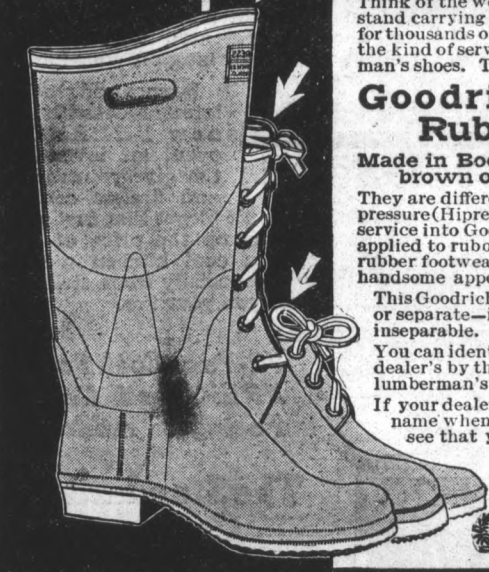
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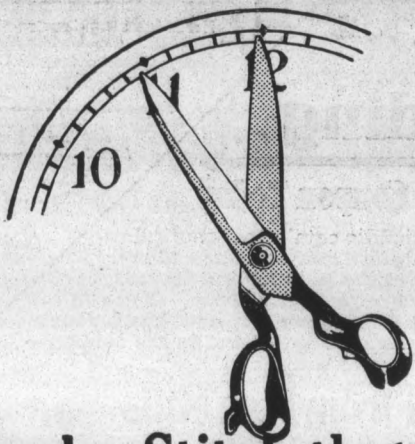
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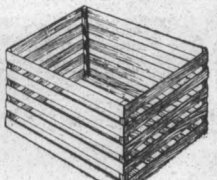
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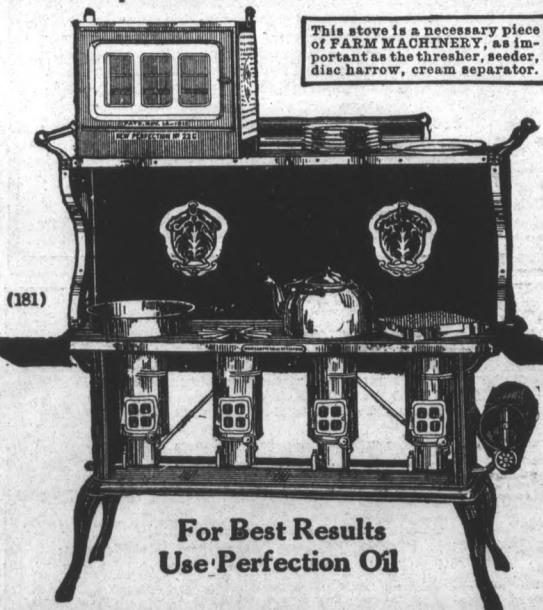
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Summer Salads.

By Mrs. Jeff Davis.

NOTHING is more appetizing, during the warm days, than a fresh, crisp salad, and it is as nutritious, as delicious. It can be planned along most economic lines, so should be frequently provided for the home luncheon and supper. To make salad successfully, it should be kept in mind that the ingredients used must be invariably, firm and cold, the dressing properly mixed, and the green vegetables on which it is usually served, crisp, fresh, thoroughly chilled and thoroughly dried. Follow these simple rules and salad making becomes a pleasure, and failure will not be feared.

To prepare the uncooked vegetables for salad, pick over, discard bruised portions, look out for insects by washing each leaf or stalk thoroughly, drain and pile in order on a wet towel, tie and lay on ice, or where they will keep crisp for several days. Do not scrape celery until ready for the table. Pare cucumbers and let them stand in ice water half an hour, but do not slice until just before serving. Lettuce must be well dried, and thoroughly chilled.

Mayonnaise Dressing.—In a small salad bowl standing in ice water, put one-half level teaspoon of salt, one-fourth teaspoon white pepper, a dash of cayenne pepper, and if for meat salad one teaspoonful of dry mustard. If for fruit or vegetable salads add one teaspoon powdered sugar. Add the yolk of one egg and beat until egg thickens. Add, drop by drop, one cup of olive oil, or choice cottonseed oil, stirring each portion well into the egg before adding another. When quite stiff stir in one tablespoon of lemon juice, using two for one cup of oil. Some people like the addition of two tablespoonfuls of white vinegar, and two teaspoonfuls of cream is an improvement. When done, it should be like smooth, glossy butter, stiff enough to keep in shape. Pack it away in a glass jar and keep cool. If too thick when ready to use dilute a portion with a little lemon juice, or the beaten white of egg, or with a little stiffly whipped cream.

French Dressing.—Mix at the table in a small bowl with a lip, one-fourth level teaspoon salt, a few shakes of paprika, or white pepper, three tablespoonfuls of olive oil or good cottonseed oil, and one tablespoon of lemon juice or vinegar. Stir until vinegar blends with oil, and pour it over salad. If mustard is desired, add it with the salt. Add, also, a few drops of onion juice. This is used to season, or marinate, fish and meat salads before adding the richer dressings, and also on most of the simple dinner salads.

Spring Salad.—Arrange in salad bowl, some lettuce, well dried and torn or shredded, with small leaves whole; a few slivers of onion, or leaks, or chives; a sprinkling of minced parsley, or grated cheese, and one or two tiny radishes sliced thin. Any other combinations of vegetables may be used. Dress at table with salt and pepper, then oil, or sweet or sour cream, and lemon juice or vinegar, using it as you would if you were seasoning for your own plate. Mix and toss lightly about and serve at once.

Cabbage Salad, French Fashion.—Cut a small new cabbage in quarters and let stand in ice water to chill. Swing in a cloth until dry, cut out and discard the hard center, then shred very fine. Shred fine a green pepper freed from seeds and veins and prepare a tablespoonful of chopped parsley. For a pint of material, mix half a teaspoonful of salt, one-fourth teaspoonful, each, of mustard and pepper, four tablespoonfuls of oil and two of vinegar. When thoroughly blended dispose on a serving dish. Garnish with figures cut from slices

of cooked beet and with lengthwise quarters of hard-boiled eggs.

Harvard Salad.—Peel six medium-sized tomatoes, scooping out a small quantity of pulp from the center of each, then sprinkle the insides with salt, invert and chill. When ready to serve fill the cavities with equal parts of grated cheese, diced cold string-beans, and minced cress, worked together until smooth and moistened with French dressing. Arrange each tomato on two or three heart lettuce leaves, garnishing with a little grated egg yolk and a cube of red jelly.

Yvette Salad.—Take equal measures of celery, cut in thin slices or sprigs of cress, lean cooked ham or corned beef or tongue in tiny cubes, and half as much of pimientos, cut in half-inch squares. Dress with mayonnaise dressing.

Cucumber Jelly with Tomato Mayonnaise.—Pare three ordinary sized cucumbers and cut into thin slices, placing in a granite pan with a cupful of cold water and cooking until soft. Then force through a puree sieve, adding three tablespoonfuls of gelatin, soaked in one cupful of cold water for ten minutes, together with a pinch of celery salt, half a teaspoonful of onion juice, one tablespoonful of vinegar and a dash of cayenne pepper. Return again to the fire, stirring until the gelatin is dissolved, and after coloring with a little spinach juice and seasoning with salt, strain through cheesecloth into a ring mold. Chill the jelly until firm, and cold, unmolding on a round platter and filling the center with cubes of fresh tomato mixed with mayonnaise dressing.

Sardines with Potato Salad.—For a generous pint of cold, cooked potatoes, cut in cubes, chop fine, one slice of mild onion, one-fourth of a green pepper, three olives, three branches of parsley and one tablespoonful of picalilli. Add the chopped mixture to the potatoes with half a teaspoonful of salt, one-fourth teaspoonful of paprika, three tablespoonfuls of olive oil and one tablespoonful and a half of cider vinegar. Mix all together thoroughly and turn into a salad bowl. When ready to serve dispose, sardines freed from oil, on a soft cloth, against the salad and entirely around it. Finish with a tablespoonful or more of finely chopped cooked beets above the sardines.

Baked Bean Salad.—Cover three cupfuls cold baked beans with French dressing; let stand for one and a half hours. Drain, sprinkle with onion juice, mix with mayonnaise dressing thinned with cream. Arrange on serving dish and garnish with slices of hard cooked eggs and finely chopped parsley.

Orange Salad.—Remove the outer and inner white skin from three oranges and cut into small cubes (a tart variety is best). Arrange these in a layer on a shallow platter, covering with a layer of chopped walnut meats, sprinkle very lightly with olive oil, and set aside for several hours. At serving time wash, and pick over a large bunch of watercress, shredding it finely, and mixing in a half teaspoonful of salt. Then add half a cupful of diced radishes, and the oranges and nuts (drained); toss lightly together and serve perfectly cold, garnished with a few heart lettuce leaves.

Egg and Beet Salad.—Boil six or eight young beets, and when tender cut into tiny cubes. Slice four hard-boiled eggs and arrange eggs and beets on lettuce leaves. Over this place mayonnaise dressing, and over all sprinkle chopped olives.

The Michigan Agricultural College will graduate 198 men and women this June. Of these 74 are enrolled in agriculture, 60 in engineering, 50 in home economics, 12 in forestry, and two in veterinary science. The class is the largest in the history of the college.

Poultry and Bees.

GROWING THE PULLETS.

Comfort for the chicks should be the keynote on every farm after the hatching season is over and the chicks should be yarded and housed so that their care may be easily attended to. This is especially true of the pullets for it is to them we will look for the profit. The more we neglect them now the less will that profit be, so we should not form the habit of putting off their care.

Keep Crops Clean.

The big pest that we are compelled to fight day in and day out, is vermin. They are always present, unless extraordinary care is taken to wipe them out, but it is in the warm days of spring, and through the hot summer that they are most deadly to chicken profits. Clean quarters for the pullets, with plenty of fresh air, shade, food and clean, cool water, means that they will mature at the time nature intended for them to.

Many people neglect their poultry because they are so very busy with the other farm work at this season of the year that they have no time to spend with it. It always seemed nothing short of tragedy to me to see folks roll up their sleeves and work and worry through the brooding and hatching season, then, when the other farm work began to press, let the poultry just take care of itself.

Use a Feed Hopper.

This work can be arranged so that but a few minutes' time each day will care for several hundred fowl and an hour given to the care of the houses once a week will keep them clean and free from vermin. To do this one had best use dry mash fed from hoppers. They may be made at home by anyone that is at all handy with a saw and hammer, and I have yet to see a growing pullet that had too much feed, provided a variety was kept before her and she had plenty of range. They need lots of food. If, however, they can find a good part of it in the fields their cost is not high. They do not need corn, but wheat bran, milk or meat scrap and ground oats with an occasional feed of whole wheat, will bring them along until one can almost see them grow.

We are apt to become lost in the maze of literature that is written concerning balanced rations, but I prefer to let the pullet balance her own ration. If a sufficient variety of feed is kept where they may get to it, if they are provided with plenty of room in the roosting houses, and the lice are kept down, the pullets will thrive, cholera will be a rare thing in the flock and they will develop into hens that will begin to lay in the fall and be money makers.

Indiana. W. C. SMITH.

PRESERVING EGGS FOR FUTURE USE.

Without a doubt the cold storage plant is the very best place in which to store eggs for winter use, but this is not available to many farmers and so they must resort to the use of other preservatives. This is especially advisable at this time of the year when market eggs have not reached such a high price as they will along the first of November or just about the time the hens have gotten over their moulting period.

Infertile Eggs Best.

Before eggs are prepared for storage, the preserver should see to it that they are infertile, as infertile eggs keep very much better than fertile ones. The eggs should be strictly fresh for they will keep much bet-

ter and moreover, if a decaying egg is placed in the same receptacle with fresh ones, it is very liable to affect all the eggs around it. The third requisite for eggs which will store satisfactorily is that they be free from filth of any kind, as any foul matter adhering to the shell may taint the preservative and in this manner will be carried to the other eggs placed in the medium. After placing the eggs in the solution, being careful not to crack the shells, they are preferably kept in a moderately cool room where the temperature may be kept from getting too high.

Water Glass Method.

A very satisfactory and common way of preserving eggs is by means of the water-glass treatment. One gallon of water-glass, or sodium silicate, is sufficient to preserve 40 dozen eggs, and as the cost of a gallon of preservative will not exceed 50 cents, the cost of storing will be about one cent per dozen. In diluting the water-glass, pure water that has been boiled and then cooled should be used. Use one quart of the water-glass to each 15 or 20 quarts of water. Make up the solution, place in a tub or the vessel intended for packing, placing fresh eggs in the receptacle from time to time until it is filled. One should always be sure that the water-glass solution comes up about two inches over the top of the last layer of eggs. Many people wash their eggs before they pack them, but this is a mistake, as the washing injures the keeping quality of the egg. There is a mucilaginous coat surrounding the egg and it is thought that the washing dissolves this coat and leaves the substances free to enter the egg.

Other Good Methods.

Many farmers have good success in keeping their eggs by packing them in salt, or bran, but whenever these are not available in sufficient quantities, the water-glass method is perhaps the best. When eggs are to be preserved in salt or bran, the material should make a cover at least two inches thick above the upper layer of eggs. Kept in this manner, eggs have been known to remain good for several months. In case bran is not at hand, oats are a good substitute.

Ingham Co. I. J. MATTHEWS.

CEMENT DUCK PONDS.

Kindly give me a plan for making a duck pond. I had in mind a saucer shaped, about 12 or 14 inches deep, cemented over bottom and sides, but someone told me a cement trough for either ducks or chickens is injurious to the fowl. Is that statement true? Tuscola Co. M. G. T.

In answer to the question relative to making duck ponds I would suggest that the idea of a bowl shape, 12 to 18 inches deep, cemented, is very excellent and to my knowledge will not be detrimental to the ducks in any manner. There are several of these ponds in use in this state and many of the large duck farms of the east are using similar ones, from which many of our patterns have probably been derived.

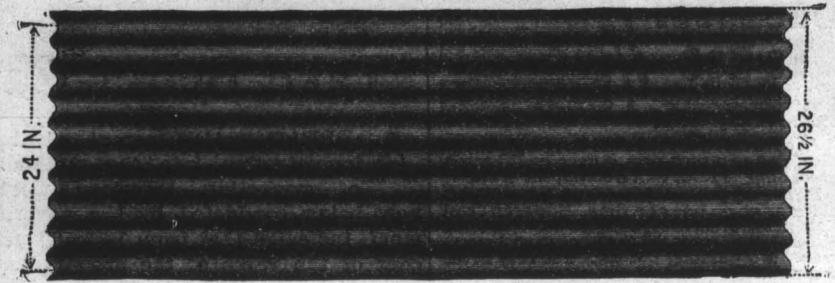
A cement trough to contain food or water might be detrimental to the birds through injury to their beaks or bills.

I would suggest that in general a good plan in making a pond is to have a gradual slope from the ground level as a central point about 14 to 18 inches deep, at which point may be placed a trap, the top of which reaches the ground level, or an inch below, so that there may not be an over-flow on the bank, causing muddy or sloppy conditions about the yards, which might be undesirable.

Mich. Ag. Col. J. O. LINTON.

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BARRED PLYMOUTH ROCKS—Cockerels all sold. Have some nice pullets and yearling hens. Eggs for hatching. OSTRANDER BROS., Morley, Mich.

Barred P. Rock Eggs—From the Bradley strain for hatching at \$1.50 per setting.
A. A. PATULLO, Deckerville, Michigan.

ORPINGTONS—Single Comb White Cockerels, eggs, day-old chicks. Safe delivery guaranteed. Order ahead. Mary Tompson, Redford, Mich.

EGG-A-DAY—Barred Plymouth Rocks, Bred-to-Lay. Eggs, \$1.50 per 15; \$2.75 per 30.
EGG-A-DAY Poultry Ranch, Marshall, Mich.

Barred Rock Eggs, 15 For \$1.50, 100 For \$7.
W. C. COFFMAN, R. No. 6, Benton Harbor, Mich.

BARRED ROCK EGGS FOR HATCHING—\$1.50 per 15, \$10 per 100.
J. A. BARNUM, Union City, Michigan.

COMMERCE strain S. O. W. Leghorn, selected fertile eggs \$4 per 100. Strong day-old chicks, May, 11c each; June, 9c. Everfresh Egg Farm, Dept. F, Ionia, Mich.

CHICKS—We ship thousands each season. Booking orders now for spring delivery. Prices always right. Free booklet. Freeport Hatchery, Box 12, Freeport, Mich.

LILLIE FARMSTEAD POULTRY

B. P. Rocks, R. I. Reds, and S. O. W. Leghorn eggs for sale, 15 for \$1.26 for 150; 50 for \$2.50.
COLON C. LILLIE, Cooresville, Mich.

FOR SALE—Pekin Ducks and R. C. Br. Leghorn EGGS \$1 per setting; \$5 per 100
CLAUDIA BETTS, HILLSDALE, MICHIGAN.

Eggs For Hatching—From white Indian runner and guineas. H. V. Hostetler, Route No. 1, St. Johns, Mich.

SINGLE COMB RHODE ISLAND RED setting eggs, 15 for \$2.50. WM. LANGLEY, R. 1, Fennville, Mich.

FANCY (S. C.) WHITE LEGHORN COCKERELS, F Price \$2 and \$3 each. Choice eggs, \$1 per setting. John McNicoll, Station A, R. 4, Bay City, Michigan.

EGGS FOR HATCHING—Buff Orpington, \$1 per 15, \$2.50 per 45; \$5 per 100.
MRS. CALVIN FULLER, R. No. 2, Bancroft, Mich.

EGGS! Pure bred White Wyandottes, Light Brahmas, \$1.50 per 15; \$2.50 per 30. Satisfaction guaranteed. MRS. E. D. BISHOP, Lake Odessa, Michigan.

Pine Crest White Orpingtons—Lay, pay, weigh, try them, eggs \$5.00 and \$2.50 per 15, utility \$7 per 100. MRS. WILLIS HOUGH, Pine Crest Farm, Royal Oak, Michigan.

S. L. WYANDOTTE EGGS—From great laying strain of Blue Ribbon Birds. Satisfaction guaranteed. F. E. Cowdrey, Ithaca, Mich.

S. C. B. Minorca Eggs—\$1.50 and \$2.50 for setting of 15. A few choice fall birds. Satisfaction guaranteed. R. W. Mills, Saline, Mich.

SILVER, White and Golden Wyandottes. Eggs from Whites \$1.50 per 15, \$2.50 per 30. Silvers & Golden at catalog prices. Browning's Wyandotte Farm, Portland, Michigan.

EGGS from prize winning Barred Rocks, R. C. White Leghorns, Silver Spangled Hamburgs, Fawn & White Runners, Circular free. Holste's bull calves Hengerveld DeKol blood. Riverview Farm, R. No. 3, Vassar, Mich.

White Wyandottes—Eggs from best pens \$2 per 15; \$6 per 50; \$10 per 100; from 8 pens 75c per 15. David Ray, 202 Forest Ave., Ypsilanti, Mich.

DOGS.

Fox and Wolf Hounds



of the best English strain in America 40 years experience in breeding these fine hounds for my own sport. Save your pigs sheep and poultry. Send stamp for catalog.

T. B. HUDSPETH,

Sibley, Jackson County, Mo.

Hounds for hunting Fox, Coon, Shetland Pony Mares, Skunk and Rabbits.
Send 2c stamp. W. E. LECKY, Holmesville, Ohio.

FOR SALE—Write W. A. Ewalt, Mt. Clemens, Mich. For those beautifully Sable and White Scotch Collie Puppies, pure bred, natural heelers, from trained stock.

FOR SALE—Collie Pups 2 mo. old. Also reg. Holstein bull calf, price right. Write us.
MEADOWBROOK FARM, Stockbridge, Michigan.

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Get Prices! This is best time to lay your roof. We are making an unusually low figure right now. Send for Book No. 567 and prices. Please give size of roof if possible.

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WOODCOTE STOCK FARM, Ionia, Mich.

FOUR YOUNG GUERNSEY BULLS, old enough for service, for sale. Exceptional breeding and in individuality. Village Farm, Grass Lake, Michigan.

FOR SALE—2 Reg. Guernsey bulls 2 and 4 years old 2 bull calves best breeding. Pedigree off spring shown. Berkshire sows either sex.
JOHN EBELS, R. R. 10, Holland Michigan.

GUERNSEY BULL CALF, nicely marked, 3 weeks old, great grandson of Gov. Chene, \$50 takes him.
AVONDALE STOCK FARM, Wayne, Michigan.

HEREFORD BULLS 2 six months old 1 18 months old.
ALLEN BROS., Paw Paw, Michigan.

HOLSTEIN BULLS AT FARMERS PRICES
Sired by one of the best bulls of America.
LONG BEACH FARM, Augusta, Kalamazoo Co., Mich.
Breeder's Directory continued on next page.

Farm Commerce.

Take Better Care of Wool Crop.

A PRELIMINARY report of the investigation into the methods of marketing American wool, now being conducted by the government, indicates that from 10 to 20 per cent of the value of the crop is lost annually through the neglect of a few simple measures. Under existing conditions, when American and Australian wools lie side by side in the warehouse, the poor handling of American wools is so noticeable that the price is inevitably affected. This handicap would be removed to a great extent if all growers would agree to do four things:

Four Suggestions.

Sack ewe, lamb, and buck fleeces in separate sacks.

Shear black sheep separately and keep the fleeces separate.

Tie the fleeces with paper twine, which does not adhere to the wool.

Remove the tags or dung locks and put them in separate sacks marked to show their contents.

Figures prepared by the Bureau of Statistics (Agricultural Forecasts) and based on reports from 383 growers who sheared in 1913 a total of 2,269,005 sheep show that at the present time about one-half of the flock owners sack ewe, lamb, and buck wool separately, about 60 per cent separate the black fleeces and tie with paper twine, and less than one-half put tags in separate sacks. It is pointed out, however, that the correspondents who took the trouble to answer the inquiries of the investigators, and from whose replies these statistics are compiled, presumably represent the more progressive element in the industry, and that if it were possible to obtain the facts from every woolgrower in the country the percentage of those using the improved methods would be found to be much lower.

It is pointed out also that although, on the face of them, these returns do not seem so unsatisfactory, the value of wools produced in a given locality is set by the general reputation already established. Buyers will not alter their prices for small individual clips, though they may be better handled than the average, and in consequence those who do put up their wool properly are made to suffer for the sins of their neighbors. This

should not be and the fault can be corrected only by a change.

Buying concerns can and may, however, allow their representatives more latitude in discriminating between individual clips. But even should they do so, prices could be altered only for clips of sufficient size to yield around 10,000 lbs. of each grade contained.

Fifty-nine cases were reported in which dockage for tags was made up on the whole clip, although the tags had been separately sacked.

A Community Problem.

The remedy, the investigators declare, is to raise the reputation of a locality by an agreement among the growers not to permit any poorly handled wool to leave the community.

It can not be said that the growers who follow the practices advocated by the market at present receive much, if any, compensation for so doing. As in other lines, it rests with such progressive individuals to bring their communities up to a common standard that will be of benefit to all.

In the opinion of the investigators the reforms already mentioned would be sufficient for the present to put American wool in a different light. Later it may be advisable to adopt the Australian methods of "skirting," or removing from the fleece the wool of the legs and belly, and grading before sacking.

LOSS IN SHIPPING EGGS.

According to figures obtained by the Food Research Laboratory of the Department of Agriculture, nearly seven per cent of all eggs packed in crates and shipped, arrive at their destination in bad order. This means that on an average 24.96 eggs out of every 30 dozen packed and shipped arrive at the market either as cracks, dents, leakers, or mashers. These figures were obtained as a result of the individual examination of 6,000 dozen eggs before and after shipment, and a further general study of the condition of 71 carloads, or over 500,000 dozen eggs shipped from 36 packing houses in the corn belt to 10 different markets on the eastern coast. In New York city alone 116,668,267 eggs arrive at the railroad and other terminals in bad condition.

Crop and Market Notes.

Michigan.

Arenac Co.—A large acreage of oats has been sown. New seeding looks favorable in most places. Rye is in fair condition, and wheat looks good. The lamb crop is reported good, but the pig crop is only fair, some farmers having heavy losses. Contractors are offering 21c for wool. Some new orchards are being set and some spraying is being done. Eggs 16c; butter 18@24c, according to quality. Live stock is very high.

Branch Co.—Spring lambs are doing well. Many have lost all or part of their spring pigs. Good staple wool brings about 23c. The average acreage of spring crops is about normal. Wheat is looking rather poor, rye fair. Meadows and pastures have made a good start, but are somewhat later than usual. Old orchards are dying from scale. A few, rather more than last year, are spraying. No commercial orchards are being set, but some are setting small plots for home use. Wheat 95c; oats 37c; corn in ear 35c; beans 52; potatoes 60c; butter 25c; eggs 17c; wool 20@23c.

Monroe Co.—Last year's hog crop is about all marketed at good prices. The spring pig crop is about up to the average. Cows are bringing good prices, but not so high as during the early part of the year, on account of a decrease in the price paid for milk, good cows bringing \$60@80. Some fields of alfalfa and clover are badly killed and are being plowed up.

Peach, plum, and other small fruit trees are in blossom, and bid fair to be a good crop. Little spraying is done in proportion to the number of orchards, many being neglected. A good acreage of oats was sown, and coming up nicely. Cattle \$8@8.50; sheep and lambs shipped to Toledo market \$6@6.50; dressed hogs \$11@11.50; calves \$12@12.50; fowls 16@17c; eggs 17@18c; timothy hay \$15@16; wheat \$1; oats 41@43c; corn in ear \$1 per cwt.

Ohio.

Medina Co.—Spring work is very backward. Scarcely any oats in except on winter plowing. Most farmers will put in an average acreage of crops except potatoes, of which few will be planted. Wheat looks good. The freezing and thawing for about two weeks has damaged clover seeding. Fruit trees are backward, being just about ready to blossom. There has been a marked interest taken this spring in spraying. Hay \$13; wheat 94c; oats 40c; pork 8½c; beef 6½@7½c; eggs 18c; cloverseed \$10 per bushel.

Harrison Co.—We are having fine spring weather, and everything is looking good. The pig and lamb crop will be short this spring. Wool has advanced in price, last year's crop selling for 25c per pound, but no sheep shearing has been done yet this spring. There is about the average acreage of oats being sown, and there will be an increased acreage of corn. Wheat is looking fine, and prospects are for a good crop. Rye and meadows look good. Fruit trees are now

in full bloom, and if frost does not come there will be a bumper crop. Farmers are spraying and are putting their orchards in better shape than usual. No new orchards are being set, but old orchards are being filled up where the trees have died. The roads are being dragged, and are getting in fine shape. Butter 20c; eggs 16c; hogs 8c; cattle 7c; fat sheep 5c; wheat 90c; corn 50c; oats 55c.

Madison Co.—Farmers are very busy with spring work. The pig crop is short, and much cholera still prevails. The lamb crop is fair. Not many oats were sown on account of the late spring. A large acreage of corn will be planted. Wheat and rye look excellent. Meadows and pastures are good. A heavy frost May 1 damaged fruit to some extent. Wheat 92c; corn 60c; oats 40c; rye 60c; cattle \$6@8; hogs \$8.50; sheep \$5.50; lambs \$7; eggs 18c; butter 25c; potatoes \$1.10 wool 23c.

Hardin Co.—Farmers are making slow progress in their work, as there are some oats to be sown yet, and the ground is too wet to permit work. The recent rains have been favorable for the grass and wheat. Fruit trees are in bloom. There was considerable spraying and pruning done and some new trees set. The scale in this locality is very bad, and it would be useless to attempt to raise fruit without spraying. The pig and lamb crops were fairly good. Buyers are offering 22c per pound for wool; eggs 18c; cream 22½c per lb; hogs 8c.

Darke Co.—Wheat is promising a good crop. We have not had much rain this spring, and the ground in some localities is getting very dry to plow. Oats all sown, and considerable corn is planted. Grass is looking well. There will not be much fruit this year. Eggs 16c; hogs \$8.50; cows \$7.50; corn 58c per bu; wheat 90c per bushel.

Fairfield Co.—We had cold weather in April, which made farmers late with their spring work. The acreage of oats sown will be light. Some wheat was injured by too much rain on land where tiling was neglected. The pig crop is fair, and the lamb crop light. Very little corn has been planted. Grass is taking a nice start. The apple crop is promising. The peach crop will be light on upland, and generally killed on low land. The cherry crop will be O. K. Most fruit growers are spraying. Hogs \$7@8; sheep \$4.50@5.25; lambs \$5@6.25; butter 25c; eggs 18c; hens 13c; wheat 94c; corn 65c; oats 40c; potatoes 75@90c.

Greene Co.—The pig crop is rather uneven this spring, some having success and others losing all in February and March. Lambs are about an average. Wool is 20c per lb., and plentiful. There will be a less acreage than usual of spring grains and oats, but more corn planted. Wheat, rye and meadows look good, but pastures are late. Eggs 16c; butter 20c; butter-fat 25½c; wheat 92c; corn 56@60c; rye 58c; oats 40c.

Indiana.

Noble Co.—We have had some good growing weather lately, with plenty of rain. Wheat looks good, also meadows and pastures. The acreage of oats is not large, but farmers are preparing to plant a large acreage of corn. Winter damage was considerable to plum and peach trees, and the outlook for these is poor. Prospects for apples, cherries and small fruits are fairly good. Farmers have taken a great deal of interest in spraying their orchards this spring, the San Jose scale having made its appearance in a great many orchards. Fat stock has nearly all been marketed. The lamb and pig crops are about the average. Wool 18c; hogs \$8@8.35; wheat 91c; corn 85c per cwt; chickens 11@12c; butter 20c; eggs 17c; lard 12c.

Wayne Co.—Spring work is being pushed rapidly. Most of the corn ground has been plowed, and some corn has been planted. Oats are coming up nicely. The average acreage of corn and oats will be sown. Wheat, meadows and pastures are in excellent shape. The pig and lamb crops will not be large, owing to many having been lost on account of the cold spring. Fruit prospects are fair. There is not much spraying done here, but farmers are awakening to the need of this work. Eggs 16c; butter 20c; corn 52c; wheat 90c; hogs \$8.25.

Allen Co.—The outlook for the wheat crop is the best in years. The farmers have their oats in, and are now working on their corn land. Potatoes 65@75c; spring chickens 15c; ducks 12@13c; wheat 93c; eggs 18c; fine country butter 20@24c; beans, hand-picked \$1.60; home-grown onions \$1.30 per bu; apples \$1.25 per bu.

Wisconsin.

Pierce Co.—On account of the heavy rainfall, only about 10 per cent of seeding is done. Most of the land to be sown or planted has been plowed.

(Continued on page 542).

Farmers' Clubs

YEARLY PROGRAMS.

Webster Farmers' Club.

The 1914 program of the Webster Farmers' Club, of Washtenaw county, is a souvenir booklet with the portrait of Daniel Webster printed on the cover page. The title page, in addition to the name of the Club and the year for which the program serves, also gives the date of organization, which was 1884. The next page contains a list of the officers and committees of the Club, and that following it gives the order of business followed in the meetings, while the succeeding pages are devoted to the programs for the monthly meetings, one to each page. A desirable feature of these programs is the announcement of the day as well as the month for which each serves, and the name of host and hostess. Each program follows out a definite thought or subject, designated as Animal Husbandry Day, Farm Machinery Day, Home Day, etc. Each program is complete as given, except that musical numbers are not assigned, although appearing on each program. The question box is also a regular feature of each program. Papers or addresses on stated subjects are a feature of each meeting, and one subject for discussion is given in most cases. Roll call is responded to in a variety of ways as announced, and an appropriate quotation bearing upon the general subject of the program appears for each month. Thus each program may properly be designated as a special feature event, a plan which should add not a little to the general interest of the meetings. No meeting is announced for July. All-day meetings are held throughout the season. This program plainly indicates that long experience in Club work has enabled this pioneer organization to make the most of its meetings, while the judicious choice of subjects insures the interest of young and old alike. The program might well serve as a model for younger organizations.

CLUB DISCUSSIONS.

Forecasting the Weather.—At the April meeting of the Ingham County Farmers' Club, Judge Bristol spoke on the subject of "The Weather Bureau." After giving a few reasons why it is safe to discuss the weather, sometimes called the "Health of the Earth," he said the United States Weather Bureau was first organized in February 1870, by an act of Congress authorizing the Secretary of War to take meteorological observations at the military stations in the interior of the country. In October, 1890, another act was passed by Congress, transferring this work to the Department of Agriculture and that "the chief of the weather bureau shall have charge of forecasting the weather, the issue of storm warnings and flood signals for the benefit of agriculture, commerce and navigation." The benefits of the bureau were quickly appreciated. The United States is divided into eight forecasting districts and the weather bureau maintains telegraphic observing stations in all parts of the country. There are about 200 of those acting simultaneously, and precisely at 7:45 a. m. and 7:45 p. m., a record is made, barometer is read, rain and snow fall measured, velocity of wind recorded and all conditions noted. Each forecaster condenses this information in a cypher telegram of about one-half dozen words which, when translated, would make 40 or 50 words. This work is completed by 8:00 o'clock and messages rapidly sent out, having the right of way over all other telegraphic business. So rapid and efficient is this service that in one hour after the morning forecasts have been wired to Washington, every farmer who has a telephone can get information as to the weather conditions in his locality during the next 24 hours. Storm signals are posted in the ports of the Great Lakes and while the loss from storm was formerly 75 per cent of all losses, it is now less than 25 per cent.

Grange.

AMONG THE LIVE GRANGES.

Farm Advisor and Consolidated Schools were the chief subjects discussed at the Cass County Pomona, April 11, which was held with Clover Leaf Grange in Mason township. Nearly every Grange in the county was represented. The meeting was called to order at 11 o'clock by Master Fred Wells for the transaction of necessary business. Following the serving of a finely prepared dinner, for which the Clover Leaf ladies are famous, the meeting was again called to order in open session, with the county lecturer, Lora M. Rickert, in charge of the program and Past Master Fred M. Brady presiding. The first topic was very ably presented by F. B. Wells. He said in part: "It was a deplorable fact that we are losing to the towns and villages those who should be kept on the farms, and only until we can interest the farmers in more scientific and business-like methods, can we hope to retain our population. It will be impossible to do this without a teacher, and the farm advisor fills that place." Miss Stella Adamson favored the audience with a reading, after which V. R. Hungerford, commissioner of schools for Van Buren county, spoke upon the subject of consolidated schools. The school problem is of vital importance to rural communities, he said, for only as our rural schools are improved will we have a more contented rural population. When our children can receive their high school education in the open country then may we hope to see more of our boys and girls stay on the farm. The consolidated school will meet this need. A question box in charge of W. W. Reynolds, created much discussion and brought out many good ideas and suggestions. The meeting closed with a vote of thanks to Clover Leaf Grange for the royal entertainment given their guests.

Three Granges Hold Rally.—On April 17 Wayne, Volivia, and Golden Rod Granges held a rally in the Wayne town hall. State Master Ketcham, on his way home from a Grange workers' conference in Chicago, stopped and delivered an address at the rally. Mr. Ketcham gave this as one of a series of Grange rallies to be held in every county in the state this year, and his influence will bear fruit in better interest and better results. The committee on arrangements prepared a banquet to follow the speaking, at which nearly 200 were seated. Hereafter, Pomona Grange has met four times a year. This rule will be changed this year, and six meetings will be held. One was held in Mason township a short time ago, and the next one will be at Wayne town hall, some time in June. Only one Grange has gone down since the revival commenced two or three years ago, and that was the Pokagon Grange which had started out with good interest and many interesting meetings. They expended considerable money in building sheds for their teams, and after these were blown down they could not get good crowds during the winter months and finally gave up.

TRI-COUNTY MEETING.

A large assembly of Grangers and their friends of the counties of Barry, Eaton and Calhoun will hold an enthusiastic rally at the Charlotte Fair Grounds, June 13.

The first feature of the day's program will be a parade in which the various Granges will be represented by floats portraying different phases of farm life.

Sports and general sociability will fill in the time until the picnic dinner is served at noon.

To the afternoon program the public is cordially invited. The address of welcome is to be given by Past Master N. P. Hull. To this State Master J. C. Ketcham will respond. Managing Editor of the National Grange Monthly, Chas. M. Gardner, The High Priest of De Meter, will give the principal address of the day.

At five o'clock the fifth degree will be conferred at Charlotte Grange Hall.

OPPORTUNITY!

Pure Bred Holstein Bull Calf

born Dec 25-13 from a daughter of Sir Johanna Friend Clothilde, 20 A. R. O. daughters. Price, \$70. Bull calf, born Dec 22-13, from a daughter of DeKol 2nd Paul DeKol No. 2, 34 A. R. O. daughters. Price, \$35. Heifer calf born Oct. 19-13, from a grand daughter of Sir Johanna Friend Clothilde. Price \$100. All well marked, better more black than white.

HOWARD EVANS, Eau Claire, Mich.

HOLSTEIN FRIESIAN CATTLE BREEDERS of high record cows. Young bulls at farmers prices. JONES & LUTZ, Oak Grove, Michigan.

ESPANORE FARM, LANSING, MICH.

Register'd Holsteins

Bull Calves \$50 to \$200.

An absolute guarantee with each purchase. CHASE S. OSBORN, Owners, L. M. HATCH, ADAM E. FERGUSON, Supt.

\$225 Buys a registered heifer 8 mo. old and reg. istered bull 7 mo. old, both 1/2 white, not not akin. B. B. REAVEY, Akron, Michigan.

Ypsilanti Herd—Offer bull calves, choice A. R. O. breeders, \$100 and up. COLE BROTHERS COMPANY, Ypsilanti, Michigan.

Registered Holstein Bull two years old. 27-lb. dam, 30-lb. granddam, average 29 lbs of butter in 7 days. \$250 delivered. Write for pedigree. HOBART W. FAY, Mason, Mich.

Handsome Thoroughbred Holstein Bull Calf for sale. My 25 lb. Butter bull; out of grand A. R. O. dam. Seven-eighths white. Splendid individual. ROUGE MONT FARMS, Detroit, Michigan.

BIGELOW'S HOLSTEIN FARMS

Breeders of high class

Registered Holsteins.

A. R. O. HOLSTEIN COWS FOR SALE. 6 very fine A. R. O. cows, bred to Johanna Concordia Champion, and Duke Ormsby Pictorial DeKol. Price \$150. Service bulls and bull calves. Kindly write me just what you want. L. E. CONNELL, Fayette, Ohio.

MICHIGAN HOME AND TRAINING SCHOOL

LAFER, MICHIGAN.

Breeder of High Grade Holstein Cattle. Lists and prices upon application.

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

Holstein Friesian Cattle Herd Headed by Albina Bonte Butter Boy No. 93124. Average for dam and sire's dam A. R. O. at 4 yrs. butter 7 days 28.37 lbs. No stock for sale. W. B. Reader, Howell, Mich.

"Top-Notch" Holsteins.

Choice bull calves from 1 to 7 mo. old, of fashionable breeding and from dams with official milk and butter records for sale at reasonable prices. McPHERSON FARMS CO., Howell, Michigan.

Purebred Registered HOLSTEIN CATTLE

The Greatest Dairy Breed

Send for FREE Illustrated Booklets Holstein-Friesian, Assn., Box 164, Brattleboro, Vt.

JERSEYS—Bull calves nearly ready for service. Sired by Jacob's Fairy Emanon 107111. SMITH & PARKER, Howell, Michigan.

Jerseys For Profit

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

If you are **JERSEY BULLS** write us today and we in need of bulls will quote you prices on some grandsons of Hood Farm Pogis 9th, that will surprise you. Fisherton Farm, Pontiac, Michigan.

MAPLE Lane Register of Merit Jersey Herd—Tuberculin tested by U. S. Government. Bull calves from cows in U. S. of M. test. Heifer calves whose dams, grand-dams, and great grand-dams are in the Register of Merit. IRVIN FOX, Allegan, 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.

BUTTER BRED JERSEY BULLS

CRYSTAL SPRING STOCK FARM, Silver Creek, Allegan County, Michigan.

Jersey Bulls Yearling and two-year-old. Eligible to register. Splendid breeding. Price right. Address LEWIS RILEY, Metamora, Mich.

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

FOR SALE—14 Polled Durham & Shorthorn Bulls from 4 to 24 months old. C. CARLSON, LeRoy, Mich.

DAIRY BRED SHORTHORNS of best Bates strains, all sold. J. B. HUMMEL, Mason, Michigan.

SHORTHORN CATTLE

W. W. KNAPP, Howell, Michigan.

SHEEP.

IT PAYS TO BUY PURE BRED SHEEP OF PARSONS "The Sheepman of the East."

I sell and ship everywhere and pay express charges. Write for club offer and price list. Also pure bred Shropshires and Felled-Delaines. PARSONS, Grand Ledge, Mich. R. 1.

HOGS.

Durocs & Victorias—A few extra Sept. Boars and bunch of sows for sale. M. T. STORY, Lowell, Mich., Citizens Phone 55.

BERKSHIRES

Pure bred Berkshire boar pigs, ready for service, \$15 to \$25. Spring pigs \$10 orated for shipment. Aberdeen Angus bull calves \$50 to \$200. Closely related to four International Grand Champions. Write for complete list of Angus Offerings in Michigan.

GEO. B. SMITH

Vice President Michigan Angus Breeders Ass'n. ADDISON, MICHIGAN.

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

BERKSHIRE—Choice fall Boars and Gilts of select breeding, also spring pigs. Priced to sell. WHITE OAK FARM, R. No. 4, Brown City, Mich.

Chester Whites—Reg. Bred Gilts—Orders taken for spring pigs and Collie pups. Holstein Bulls at Bargains. FAY B. PARHAM, Bronson, Mich.

CHESTER WHITES—The long type, prolific kind. price lot of spring pigs. MEADOW VIEW STOCK FARM, Holland, Michigan.

O. I. C's—Spring pigs, get my price before you buy elsewhere. CLOVER LEAF STOCK FARM, R. No. 1, Monroe, Michigan.

O. I. C's—I HAVE A NICE LOT OF HAND. OTTO B. SCHULZE, One-half mile west of Depot, Nashville, Michigan.

O. I. C.—Take orders for spring pigs. One 8 mo. fine type Jersey Bull. Price reasonable. N. H. Weber, Oak View Farm, Royal Oak, Michigan.

O. I. C.—16 sows bred for spring farrow, 30 fall pigs, large and growthy. Write your wants. GLENWOOD STOCK FARM, Zeeland, Mich.

O. I. C.—Sows bred for June farrow. We are also taking orders for spring pigs. JOHN BERNER & SON, Grand Ledge, Mich.

O. I. C.—gilts bred for June and July farrow. Also spring pigs. Serviceable boars all sold. I pay express. G. P. ANDREWS, Dansville, Mich.

THIS **O.I.C.** SOW WEIGHED 932 LBS. AT 23 MONTHS OLD **IONIA GIRL**

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

O. I. C's All sold. Would be pleased to book your order for spring pigs. C. J. THOMPSON, Rockford, Michigan.

O. I. C.—Three September Boars, four September Gilts. Am also taking orders for spring pigs, they are extra good ones. NEWMAN'S STOCK FARM, R. No. 1, Mariette, Mich.

O. I. C.—Boars six months old, spring pigs, gilts. Satisfaction guaranteed. A. R. GRAHAM, FLINT, MICHIGAN.

O. I. C. Swine—May I have the pleasure of receiving your order for a pair or trio, not akin, of April and May farrow. They are bred right. Satisfaction guaranteed. A. J. GORDEN, R. No. 2, Dorh, Mich.

FOR SALE—A few heavy boned Duroc Jersey boars. Weighing from 100 to 200 pounds each. M. A. BRAY, Okemos, Ingham Co., Michigan.

DUROC JERSEYS—Fall gilts of the large, heavy boned type, bred for Aug. and Sept. farrow. Also spring pigs, not akin. F. J. Drott, R. 1, Monroe, Mich.

DUROCS—A good growthy fall pig immuned and bred for August farrow will make you money. Give me your order now for May shipment. Also fall boars ready for service. KOPE KON FARM, Kinderhook, Michigan.

FOR SALE DUROC JERSEYS—College Boy 13667 farrowed Sept. 7, 1911. Spring pigs after June 1, 1914. J. H. BANGHART, Lansing, Michigan.

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

KORN-EL STOCK FARM now offer Duroc Jersey pigs of either sex at reasonable prices. E. R. CORNELL, Howell, Michigan.

Durocs—25 large high class sows, bred for March & April to Barney Crimmon, Cherry Advance & Oakland Fancy. Write or come & see. J. C. Barney, Coldwater, Mich.

DUROC JERSEYS—A few fall pigs of both sexes for sale. CAREY U. EDMONDS, Hastings, Michigan.

DUROC JERSEYS—Spring pigs either sex at reasonable prices. STAHLMAN, Cherry Lawn Farm, R. 2, Shepherd, Mich.

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

For Sale—Duroc Jerseys—Two sows one year old. Pigs of either sex. Myron Shorten, Quimby, Mich.

LARGE TYPE P. C.—Largest in Mich. Bred gilts all sold. A few good fall pigs left. Watch this space for something large and good, they please where ever they go. W. E. LIVINGSTON, Parma, Michigan.

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

MY OH MY!

What an Opportunity.

Starting May 1st, we are going to give to the farmers and breeders an opportunity to get started right in the breeding industry. We are going to give you a chance to get hold of foundation stock that will give you a nucleus for one of the finest and best herds in your community. We are going to show you as we have others, that you will have greater success with our big type

POLAND CHINAS

than with any other breed. We want to place at least one pig, or a pair in every community, to advertise our herd. We will send sample pair on time and give agency, if not already taken. If interested, write for our plan and prices.

HILLCREST FARM, KALAMAZOO, MICH.

Poland China Boar; Sows Bred, All of the Big Type.

A. A. WOOD & SON, Saline, Michigan.

P. C.—Fall boars and gilts. Spring pigs, Shorthorn Cent. Mich. Shorthorn Ass'n., McBride, Michigan.

POLAND CHINA PIGS—From large Prolific stock. 1 Shorthorn Bull Calves. Eggs \$1 per 15 from choice Barred Rocks. ROBERT NEVE, Pierson, Michigan.

BUTLER'S Big Boned Prolific Poland Chinas. Grow big, keep easy, mature early, ready for market at 6 months. Why? Because we've bred them that way for more than 20 years. We have 25 big boned boars ready for service. Buy one and make more money on your hogs. You can't get any better at any price. P. O. History Free. J. C. BUTLER, Portland, Mich.

30 Poland China F all Pigs—Good ones from immune sows \$10 and \$15 each, while they last. Bred sows sale Feb. 27th, send your name for catalog if you want to buy Big Types with Quality. Wm. Waffie, Coldwater, Mich.

350 BIG TYPE MULE FOOT HOGS—America's Champion Herd. Prolific, hardy. Best for hoh. Also Ponies. J. DUNLAP, Box M, Williamsport, Ohio.

YORKSHIRE SWINE—Boars all sold. Yearling sows bred for March farrow. Weanling pigs ready May 1st. GEO. S. McMULLEN, Grand Ledge, Mich.

Mule Foot Bred sows, bred gilts and boar pigs, not related, for sale. Satisfaction guaranteed. G. C. KREGLOW, Ada, Ohio.

FOR SALE—Yorkshires, milk fed, spring pigs and a few sows bred for April farrow. Prices reasonable. O. H. JOBBE, Mt. Clemens, Michigan.

Guaranteed to not die of Cholera. Prolific, long deep and well fleshed. Feb. and March pigs. Trios not akin. Boars. Cribbs Bros. Watervliet, Mich.

Yorkshires—Spring Pigs Of Excellent Quality. GUY J. DOTY, R. 2, Monroe, Michigan.

YORKSHIRES

The large, long-bodied, prolific kind. Gilts bred for July, August and September farrow. A choice lot of spring pigs, pairs and trios, not akin. Prices reasonable. W. C. COOK, R. 42, Ada, Michigan.

Lillie Farmstead Yorkshires

Open gilts and gilts bred for September farrow. Spring pigs either sex, pairs and trios not akin. Satisfaction guaranteed.

COLON C. LILLIE, Coopersville, Michigan.

Markets.

GRAINS AND SEEDS.

May 12, 1914.

Wheat.—Trading in wheat has been changeable this week but the bulls are making a good showing in spite of the almost perfect government report which places the promised yield at 630,000,000 bushels, much larger than any ever yet harvested. This report had, however, been discounted in the market, as news of a perfect stand over the winter wheat area was public knowledge. The past few days information of damaging work by the Hessian fly in Missouri and Illinois has been militating against declines, while the strong demand from Europe and the British Isles, heavy exports and the reduction of the American visible supply by over 5,000,000 bushels, together with small receipts at primary elevators have aided in keeping price levels well maintained. Also spring wheat seeding is being delayed somewhat. One year ago the price for No. 2 red wheat was \$1.07½ per bushel. Quotations for the week are:

	No. 2	No. 1	July
Wednesday	99½	99½	87
Thursday	99½	99	87
Friday	99	98½	86¾
Saturday	99	98½	86¾
Monday	99½	99	87¼
Tuesday	99	98½	87

Chicago, (May 11).—No. 2 red wheat 95½@96¼c per bu; May 94½c; July 86¼c.

Corn.—A general improvement characterized the corn market this week. Rains have delayed planting and made preparation of fields difficult in the northern part of the corn belt. Weather conditions have also damaged the crop in Argentine and held up shipments from that country to this, many of them being cancelled entirely. Visible supply shows a decrease of over 2,000 bushels. One year ago the price for No. 2 corn was 56½c per bushel. Quotations for the past week are:

	No. 2	No. 2	Yellow
Wednesday	69	70½	70½
Thursday	69	70½	70½
Friday	69½	71	71
Saturday	69½	71	71
Monday	69½	71	71
Tuesday	69½	71	71

Chicago, (May 11).—No. 3 white corn 68½c per bu; May 67½c; July 65½c.

Oats.—Although it was anticipated that with the opening of lake navigation large shipments of oats would be forthcoming from the Canadian northwest, but one boatload has been received at Chicago thus far. In fact, the price in the Dominion is quite as high as on this side of the line. Rain has also been excessive in many places, reducing the prospects of the developing crop. One year ago the price for standard oats was 40c per bushel. Quotations for the past week are:

	Standard	No. 3	White
Wednesday	41½	41	41
Thursday	41½	41	41
Friday	41½	41	41
Saturday	41½	41	41
Monday	42	41½	41½
Tuesday	42½	42	42

Chicago, (May 11).—No. 3 white oats 38½@38¾c; May 37½c; July 35½c per bushel.

Beans.—Demand has eased off a little. The local board of trade quotes immediate and prompt shipment at \$2.08; May \$2.15 per bu. Chicago reports firm prices. Pea beans, hand-picked, choice, are steady at \$2.25@2.30; common \$2@2.15; red kidneys, choice \$3.25@3.35.

Rye.—This cereal is steady. No. 2 is quoted at 65c per bu.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs. as follows. Best patent \$5.30; second \$5; straight \$4.75; spring patent \$5.10; rye flour \$4.40 per bbl.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$28; coarse middlings \$30; fine middlings \$32; cracked corn \$29; coarse corn meal \$30; corn and oat chop \$26.50 per ton.

Hay.—Good hay scarce, with prices steady. Carlots on track at Detroit are: No. 1 timothy \$16.50@17; standard \$15.50@16; No. 2, \$14@15; light mixed \$15.50@16; No. 1 mixed \$13.50@14; No. 1 clover \$13@13.50.

New York.—Prices steady. No. 1 timothy \$22.50; No. 3 to standard \$17.50@20.50.

Chicago.—Market firm at higher prices. Choice timothy is quoted at

\$18.50@19 per ton; No. 1, \$16.50@17.50; No. 2, \$14.50@15.50 per ton. Straw.—Steady. Rye \$8@8.50; oat straw \$7@7.50; wheat straw \$7@7.50 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—Market fairly steady with prices 1c higher than last week. Extra creamery 25½c per lb; firsts 24½c; dairy 17c; packing stock 14c.

Chicago.—Market is steady with the price 1c higher. Trading is slow and market somewhat quiet. At present prices buyers prefer to await developments. Extra creamery 26c; extra firsts 25c; firsts 22@23½c; seconds 18@20½c; packing stock 16@16½c.

Elgin.—Market is firm at 26c per lb., which is 1c higher than last week.

New York.—The market is easy with prices advanced ½c. Creamery extras 26½@27c; firsts 24½@26c; seconds 22½@24c; packing stock 16@17c.

Eggs.—Eggs are in good supply and market is firm at prices ¾c lower than last week. Current receipts of fresh stock are quoted at 18¾c.

Chicago.—Market is steady and active at prices about 1c lower than last week. Good eggs are in demand while checks and dirties are a drug on the market. Miscellaneous lots, cases included 17¼@18½c; ordinary firsts \$17¼@17¾c; firsts 18½@18¾c.

New York.—Market firm with prices slightly lower. Fresh gathered extras 22½@23c; storage packed firsts 21½@22c; fresh gathered firsts 20¾@21c.

Poultry.—Market easy with prices on hens slightly lower. Live—Springs 18c; hens 16@18c; turkeys 19@20c; geese 14@15c; ducks 17@18c.

Chicago.—The market for fowls is stronger and prices are ½c higher. Other stock remains unchanged. Quotations on live are: Turkeys, good weight 16c; others 12c; fowls, choice 16c; old roosters 10½c; broilers 1½@2 lbs. weight, 32@35c; geese 10c; ducks 14c; spring ducks 25@28c.

FRUITS AND VEGETABLES.

Apples.—Market is quiet and easy. Quality is getting poor. Barrel stock quoted: No. 1, \$5.50@6.50; No. 2, \$4@4.50 per bbl. In Chicago the market is easy. Winesaps, Willow Twigs and Ben Davis meet with moderate demand. Other varieties slow and box apples very dull. Barrel stock is now quoted: Spies \$5@6; Baldwins \$5@5.25; Ben Davis \$3.50@4; Golden Russets \$5; Starks \$4@5; Willow Twigs \$5.50@6.

Potatoes.—Market quiet and steady; prices unchanged. Quotations: In bulk 62@65c per bu; in sacks 70@72c per bu. for carlots. At Chicago the market is steady. Nice potatoes sold well at present prices. The offerings are light. Good Michigan stock is quoted at 65@70c per bushel.

WOOL.

No changes are noted in the wool market. Sales are meagre at extremely firm prices. The 1913 fleece wools are entirely in the hands of manufacturers, and the new crop has not made its appearance on the market as yet with the exception of a few stray offerings. The quality of the fleeces is high, and the price will probably rule steady with present quotations for the old crop, which are 20@21c for fine and 23@24c per lb. for unwashed offerings.

GRAND RAPIDS.

Business on the city market is increasing as the season advances. Green onions sell at 10c per dozen; lettuce at 6c; pieplant 40@50c per bushel; potatoes 70@75c. Asparagus started this week at 75c but will be lower owing to increased offerings. Eggs start off at 17½@18c; dairy butter at 17c. In live poultry chickens are bringing 15c; ducks 16@17c; geese 12@13c. Dressed hogs continue at 10½@11c. Wheat is worth 93c; oats 39c; corn 65c; white pea beans \$1.90; red kidneys \$2.75.

DETROIT EASTERN MARKET.

Tuesday morning's trading was small and the variety of products was confined largely to lettuce, which was selling from 60@70c per basket. A few potatoes were offered around 85c per bushel. But little loose hay is coming forward, with the price holding around \$16@18 per ton.

THE LIVE STOCK MARKETS.

Buffalo.

May 11, 1914. (Special Report of Dunning and Stevens, New York Central Stock Yards, East Buffalo, N. Y.)

Cattle.—Receipts 4,000; market steady to strong; prime steers \$8.75@9.35; best 1200 to 1300-lb. steers

\$8.50@8.85; best 1100 to 1200-lb. do \$8.25@8.60; coarse and plain weighty steers \$7.75@8; fancy yearlings, baby beef \$8.40@8.75; medium to good \$8@8.25; choice handy steers, 90 to 1000, \$8@8.25; fair to good 1000 to 1100, \$7.75@8; extra good cows \$7.25@7.50; best cows \$6.50@7; butcher cows \$5.50@6; grassers \$5.25@5.75; trimmers \$3.75@4.25; best heifers \$7.75@8.25; medium butcher heifers \$6.75@7.25; stock heifers \$6.25@6.50; best feeding steers \$7.50@7.85; fair to good \$7@7.25; best stock steers \$7.25@7.50; common light steers \$6.50@7; extra good bulls \$7@7.25; bologna bulls \$6.25@7.50; common to good \$5@6; best milkers and springers \$7.50@90; medium to good \$50@60; common \$30@40.

Hogs.—Receipts 17,000; market 10@15c lower; heavy mixed and yorkers \$8.80@8.85; pigs \$8.85@9.

Sheep and Lambs.—Receipts 12,000; market 10c higher; top lambs \$8.25@8.35; yearlings \$6.50@7.50; wethers \$5.75@6; ewes \$5.25@5.50. Calves strong; tops \$10.50; fair to good \$8@9.50; grassers \$5.50@7.

Chicago.

May 11, 1914.

Cattle. Hogs. Sheep. Received today..17,000 38,000 15,000 Same day 1913..17,985 45,032 14,843 Last week.....37,969 92,753 84,258 Same wk 1913..47,717 119,714 86,745

Fat butchering cattle were fairly active this morning at firmer prices, but steers were late meeting with a demand, notwithstanding the slim receipts for Monday, prices were no more than steady to a shade higher. Hogs declined 10@15c, with sales at \$8@8.47½. Armour & Co. and Swift & Co. received upward of 5,000 hogs consigned direct to them from other markets. Hogs marketed last week averaged 234 lbs. Sheep and lambs were 10@15c higher, with a small run, including only four cars of woolled lambs. Prime clipped lambs brought \$8.

Cattle were received in such unusually small numbers last week that sellers were in a position to dictate terms, and nearly all descriptions sold at higher prices, including the commonest as well as the best offerings. Beef steers went chiefly at a range of \$8@9.15, with the commoner class of light-weight steers going at \$7.25@8.15, medium lots at \$8.20@8.75, good fat cattle at \$8.80@9.10 and choice to fancy heavy steers at \$9.15@9.60. Yearling steers sold at \$8.75@9.25 for the better class and at \$7.75 and upwards for other descriptions. For fair to fancy butchering cows and heifers there was a ready outlet on the basis of \$5.15@9, with a sale of 30 fancy Hereford heifers that averaged 666 lbs. at the top price. Cutters went at \$4.65@5.10; canners at \$3.50@4.60 and bulls at \$5.40@8. The stocker and feeder trade was restricted again by the insufficient offerings and continued advances in prices. Pastures are getting in good condition once more, and hundreds of farmers are anxious to utilize them, but they are deterred from doing so by the extremely high prices asked for well-bred cattle adapted for grazing. Sales of stock steers and weighty feeders have been at \$6.25@8.40 with sales at \$8.10 and upward consisting mostly of prime little yearling stockers. Stock steer calves of good to choice quality sold at \$7.65@8.50, and fair sales were made of stock and feeding cows and heifers at \$5.50@7.50. There was an active trade in veal calves of light weight at \$8.60@10 per 100 lbs., with sales down to \$5@7.75 for the heavier weights. Milk and springers sold at \$55@85 per head, with dairymen wanting the choicer cows and most common ones going to killers. Prospects look food for a good summer market for good beefs, as there is a shortage, and it is a mistake to send in half-fattened stock. During the latter part of the week cattle were in much slower demand, and the advance was largely lost.

Hogs underwent such sharp reductions in prices during the previous week that many owners determined to hold back their matured swine until a partial recovery, at least, took place, and then activity in farm work was a factor in decreasing country shipments. Much smaller receipts than usual made the packers more eager to take hold, and although the eastern shipping demand was not usually especially large, prices had several advances. Recent offerings have shown up nicely in quality, the average weight up to last week having been 234 lbs., comparing with 239 lbs. one year ago, 227 lbs. two years ago and 243 lbs. three years ago. As is usual at a time of the year when hogs are coming to market in increasing weights, the best light hogs sell at the highest prices, and the best heavy lots go at a discount of about 5c. Provisions are in good local supply, Chicago warehouses holding on the first day of the month 115,190,895 lbs. of hog products, comparing with 127,954,752 lbs. a month earlier and 101,

474,594 lbs. a year ago. After hogs had sold up to \$8.67½ there was a decline, and Saturday sales were at \$8.10@8.60, pigs selling at \$7.40@8.45. A week earlier the best hogs brought \$8.50.

Colorado woolled lambs boomed last week to the highest prices of the year under the influence of a vigorous demand. Receipts of sheep and lambs were reduced from those of the preceding week, and aside from Colorado woolled lambs, most of the receipts consisted of clipped flocks. There was as active a demand for feeders as ever, but offerings were greatly inadequate. Late in the week Colorado woolled lambs brought \$7.75@8.90, with clipped lambs going at \$5.50@7.90 for culls to prime lots. Shorn flocks sold as follows: Yearlings \$5.90@7; wethers \$5.40@5.90; ewes \$3.50@5.85; bucks \$4@5. Feeding shorn lambs brought \$6@6.25. Sheep advanced during the week 25@35c; yearlings 40@50c, and most lambs 50c.

NATIONAL CROP REPORT.

The Crop Reporting Board of the Bureau of Statistics (Crop Estimates) Bureau of Statistics (Crop Estimates), United States Department of Agriculture, estimates, from the reports of correspondents and agents of the Bureau, as follows:

On May 1 the area of winter wheat to be harvested was about 35,387,000 acres, or 3.1 per cent (1,119,000 acres) less than the area planted last autumn, but 11.6 per cent (3,688,000 acres) more than the area harvested last year, viz 31,699,000 acres.

The average condition of winter wheat on May 1 was 95.9, compared with 95.6 on April 1, 91.9 on May 1, 1913, and 85.5, the average for the past ten years on May 1.

A condition of 95.9 per cent on May 1 is indicative of a yield per acre of approximately 17.8 bushels, assuming average variations to prevail thereafter. On the estimated area to be harvested, 17.8 bushels per acre would produce 630,000,000 bushels, or 20.3 per cent more than in 1913, 57.5 per cent more than in 1912, and 46.3 per cent more than in 1911. The outturn of the crop will probably be above or below the figures given above according as the change in conditions from May 1 to harvest is above or below the average change.

The average condition of rye on May 1 was 93.4, compared with 91.3 on April 1, 91.0 on May 1, 1913, and 89.4, the average for the past ten years on May 1.

The average condition of meadow (hay) lands on May 1 was 90.9, compared with 88.5 on May 1, 1913, and a ten-year average on May 1 of 88.1.

Stocks of hay on farms May 1 are estimated as 7,832,000 tons (12.2 per cent of crop), against 10,828,000 tons (14.9 per cent) on May 1, 1913, and 4,744,000 tons (8.6 per cent) on May 1, 1912.

The average condition of pastures on May 1 was 88.3, compared with 87.1 on May 1, 1913, and a ten-year average on May 1 of 85.6.

Of spring plowing 70.9 per cent was completed up to May 1, compared with 67.2 per cent on May 1, 1913, and a ten-year average on May 1 of 66.6.

Of spring planting 56.4 per cent was completed up to May 1, compared with 57.0 per cent on May 1, 1913, and an eight-year average on May 1 of 54.6.

CROP AND MARKET NOTES.

(Continued from page 540).

Lambs are doing well where there is plenty of shelter. Our main line is milk and its by-products. We get 24c for butter-fat, cash at our door, and can sell all the cheese made at 18c. No whole milk is sold. Most of the grade steer calves are sold as baby beef, as it pays best. Butter 25c; eggs 15c; cloverseed \$8.

Iowa.

Osceola Co.—The seeding of small grains was nearly all finished by April 22, since which time we have had several rains, and grain is coming up fine. Winter wheat was killed, as it did not make sufficient growth last fall on account of the drouth. Clover meadows and pastures wintered well. Farmers are busy plowing for corn, and planting will be about the first week in May. Seed corn in some localities tests good, and in others very poor.

Colorado.

So. Weld Co.—Fruit buds look to be in good condition. Winter grains looking fine. Lots of spring wheat planted. Plenty of moisture. Some cabbage set out. There will be a large acreage of cabbage, tomatoes, peas and cucumbers planted here. Alfalfa looks good. Eggs 15c; butter 25c; wheat \$1.22 per cwt; milch cows and horses are high. Farmers are well along with their spring work. Fences were most all down from the heavy snow of December.

THIS IS THE FIRST EDITION.

The first edition is sent to those who have not expressed a desire for the latest markets. The late market edition will be sent on request at any time.

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

May 7, 1914.

Cattle.

Receipts 1116. Heavy steady; all other grades strong and 15@25c higher.

We quote: Best steers \$8.25@8.40; mediums, 800 to 1000, \$7.50@8; steers and heifers, 800 to 1000, \$7.25@8.25; do that are fat, 500 to 700, \$6.75@7.50; choice fat cows \$7@7.25; good do \$6.25@6.75; common cows \$5.50@5.75; canners \$3.50@4.25; choice heavy bulls \$7@7.25; fair to good bologna bulls \$6.50@6.75; stock bulls \$6@6.50; choice feeding steers, 800 to 1000, \$7.25@7.75; fair do \$7@7.25; choice stockers, 500 to 700, \$7@7.25; fair do \$6.50@6.75; stock heifers \$6@6.50; milkers, large, young, medium age \$65@85; common milkers \$45@55; young grazing cows \$5.25@5.60.

Haley & M. sold Mich. B. Co. 7 steers av 991 at \$7.90; to Sullivan P. Co. 2 cow and bull av 1030 at \$6.75, 4 steers av 1112 at \$8.25, 2 cows av 1160 at \$6.50; to Thompson Bros. 2 bulls av 1025 at \$7, 4 cows av 975 at \$6, 2 bulls av 1090 at \$6.65; to Davies 26 stockers av 508 at \$6.80; to Breitenbeck 2 butchers av 615 at \$6.25, 1 steer wgh 840 at \$7.75, 6 do av 870 at \$7.85; to Kamman B. Co. 1 bull wgh 1060 at \$6.55, 1 heifer wgh 530 at \$6.75, 13 do av 770 at \$7.60; to Newton B. Co. 3 steers av 873 at \$7.75, 1 bull wgh 910 at \$6.75, 1 cow wgh 970 at \$6; to Breitenbeck 2 cows av 995 at \$5.85.

Bishop, B. & H. sold Mich. B. Co. 7 steers av 715 at \$7.30, 2 cows av 1005 at \$6, 22 steers av 1050 at \$7.90; to Sullivan P. Co. 10 do av 979 at \$8, 2 cows av 1030 at \$6.50, 2 do av 1105 at \$6.60, 3 do av 1033 at \$6.25, 1 do wgh 850 at \$6.50, 9 steers av 1094 at \$8, 4 do av 1085 at \$7; to Mich. B. Co. 4 cows av 857 at \$6.25; to Hammond, S. & Co. 11 steers av 1187 at \$8.25, 1 do wgh 1390 at \$7.50, 3 do av 700 at \$6.75, 21 do av 880 at \$7.80; to Parker, W. & Co. 2 bulls av 1190 at \$6.65, 2 do av 1075 at \$6.50; to Mich. B. Co. 2 cows av 1200 at \$6.65; to Bresnahan 2 do av 920 at \$5.50, 3 do av 863 at \$5.50, 1 do wgh 1120 at \$5.50, 2 stockers av 560 at \$7; to Mason B. Co. 12 steers av 802 at \$7.65, 6 do av 887 at \$7.75; to Sullivan P. Co. 3 steers av 1050 at \$8.25, 2 bulls av 1020 at \$6.75, 2 cows av 770 at \$6.75, 2 cow and bull av 1290 at \$6.90, 2 cows av 1080 at \$6, 2 steers av 825 at \$7, 1 bull wgh 1200 at \$7, 1 cow wgh 950 at \$6.25; to Parker, W. & Co. 20 butchers av 1022 at \$7.25; to Horne 2 cows av 870 at \$5.75; to Ratner 6 steers av 700 at \$7.40; to Parker, W. & Co. 20 do av 980 at \$8, 2 do av 960 at \$7.25; to Sullivan P. Co. 18 do av 1000 at \$8.15.

Veal Cales.

Receipts 958. Market 50c higher than last week. Best \$9.50@10; others \$7@9.

Bishop, B. & H. sold Sullivan P. Co. 1 wgh 130 at \$9, 4 av 140 at \$9.50, 1 wgh 160 at \$9.50, 1 wgh 140 at \$9.50, 3 av 185 at \$9.50, 2 av 150 at \$9.50, 10 av 160 at \$9.50, 2 av 145 at \$9.50; to Rattkowsky 12 av 150 at \$10; to Goose 7 av 140 at \$9.50, 2 av 310 at \$6.50; to Ratner 2 av 150 at \$10; to Hammond, S. & Co. 27 av 155 at \$9.50; to Sullivan P. Co. 18 av 150 at \$8; to Parker, W. & Co. 6 av 130 at \$10, 38 av 155 at \$9.25, 7 av 150 at \$9.25; to Rattkowsky 3 av 145 at \$10; to Ratner 9 av 150 at \$10; to Rattkowsky 7 av 160 at \$8.75; to Sullivan P. Co. 15 av 125 at \$8, 10 av 158 at \$9.75, 20 av 140 at \$9.50; to Newton B. Co. 48 av 150 at \$10; to McGuire 24 av 160 at \$10, 3 av 140 at \$8.

Sheep and Lambs.

Receipts 2392. Lambs strong to a shade higher; sheep steady. Best lambs \$7.25@7.50; fair to good do, \$6.50@6.75; light to common lambs \$4.50@5.75; fair to good sheep \$5@5.25; culls and common \$3.50@4.50.

Haley & M. sold Newton B. Co. 21 lambs av 65 at \$7.25, 22 do av 95 at \$7, 74 do av 83 at \$7.25, 5 do av 50 at \$6, 4 sheep av 125 at \$5; to Thompson Bros. 8 sheep av 85 at \$4.50, 5 do av 108 at \$4.50, 3 do av 92 at \$4.75, 23 lambs av 70 at \$7.

Spicer & R. sold Parker, W. & Co. 24 lambs av 75 at \$7.10.

Hogs.

Receipts 7481. Market 5c higher; all grades \$8.65@8.70.

Bishop, B. & H. sold Miller & Co. 520 av 140 at \$8.70.

Roe Com. Co. sold Sullivan P. Co. 325 av 190 at \$8.70.

Haley & M. sold same 275 av 200 at \$8.70.

Bishop, B. & H. sold Hammond, S. & Co. 3110 av 195 at \$8.65.

Spicer & R. sold Parker, W. & Co. 200 av 190 at \$8.70.

Friday's Market.

May 8, 1914.

Cattle.

Receipts this week 1269; last week 1535; market steady. Best steers \$8.25@8.50; steers and heifers, 800 to 1200 \$7.25@8.25; medium grades, 800 to 1000, \$7.50@8; steers and heifers that are fat, 500 to 700, \$6.75@7.50; choice fat cows \$7@7.25; good do \$6.25@6.75; common cows, \$5.50@5.75; canners \$3.50@4.25; choice heavy bulls, \$7@7.25; fair to good bologna bulls, \$6.50@6.75; stock heifers, \$6@6.50; choice feeding steers, 800 to 1000 \$7.25@7.75; fair do \$7@7.35; choice stockers, 500 to 700, \$7@7.25; fair do, \$6.50@6.75; stock heifers, \$6@6.50; milkers, large, young, medium age \$65@85; common milkers \$45@55; young grazing cows \$5.25@5.60.

Veal Calves.

Receipts this week 1075; last week 1180; market steady. Best \$9.50@10; others \$7@9.

Sheep and Lambs.

Receipts this week 2507; last week 2203; market steady. Best lambs \$7.25@7.50; fair lambs \$6.50@6.75; light to common lambs \$4.50@5.75; fair to good sheep \$5@5.25; culls and common \$3.50@4.50.

Hogs.

Receipts this week 9018; last week 11,412; market slow; all grades \$8.65.

Veterinary.

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

Swollen Fetlock Joint.—I have a colt that has a swollen fetlock joint which is somewhat inflamed, but is causing no lameness. When the joint is moved I imagine I can hear a grating noise. G. R. R., Clark Lake, Mich.—The joint is sprained but the bones are not fractured. Apply one part tincture arnica, four parts alcohol and five parts water to joint twice a day and bandage it in cotton. The colt should have absolute rest or be turned in paddock alone.

Spinal Disease.—Have an old horse that passes dark colored, thick urine, is sensitive to pressure on loin; when walking hind quarters sway from side to side and I would like to know what to do for him. H. M. C., Bangor, Mich.—Give 1 dr. ground nux vomica, 1 dr. powdered nitrate of potash and 1 dr. potassium iodide at a dose in feed three times a day. Also give a dessertspoonful of Fowler's solution at a dose twice a day.

Obstructed Teat.—There appears to be an obstruction in end of teat which interferes with flow of milk and I would like to know what to do for it. G. E. G., Marion, Mich.—The opening in teat should be made larger with a small knife, or dilate opening with a sound.

Acidity of Stomach—Indigestion—Loss of Appetite.—Have a cow that is inclined to chew bones and eat rubbish. I also have another cow that is thin and not thriving well. I also have two calves that are not doing well. H. A. R., Reading, Mich.—Give your cow 1 oz. cooking soda, ½ oz. ground gentian, ½ oz. ginger, ½ oz. salt at a dose in feed three times a day. Mix together equal parts powdered sulphate iron, gentian and salt and give your thin cow a tablespoonful or two at a dose in feed two or three times a day. Give your calves a small teaspoonful of cooking soda in their milk three times a day. You should change the feed of your cows, be sure and salt them well and let them have grass as a part of their ration.

Infected Udder.—I have a cow that freshened April 30; both hind quarters are blocked; both our local Vet. and myself have been unable to get milk from either hind quarter and have used milking tubes. F. M., Fairgrove, Mich.—Apply one part fluid extract belladonna, one part fluid extract phytolacca and four parts olive oil twice a day. Gentle hand-rubbing will have a good effect; also give her a tablespoonful of powdered nitrate of potash at a dose in feed or water twice a day for a few days.

Grub in the Head.—I have lost five old sheep and seven more are complaining with grub in the head. What can I do to cure them and how can it be prevented? W. T. M., Prescott, Mich.—Blowing some Scotch snuff into the nostrils and nasal chambers of your sheep may cause them to sneeze out some of the grubs, but if not, have your Vet. trephine through the bone of face and wash them out with a weak salt solution, and then wound of face will soon heal. Grub in the head cannot be prevented.

Catarrh.—I have a flock of 50 Plymouth Rock chickens that had roup real bad last fall; I succeeded in curing them, but now I have a fowl that shows symptoms of roup. All the rest of my chickens are seemingly healthy. I am feeding mash, corn meal in

the morning, wheat, oats and corn through the day; they are shut up in a park and am cutting grass for them; besides, they have lots of gravel. They are all last year's pullets. R. C. McC., Durand, Mich.—The sick fowl or fowls should be removed from balance of flock and give them some ground ginger, ground gentian, bicarbonate soda and a little salt in their feed every day. It is needless for me to say their roosting place should be free from drafts, and kept clean. Soon as damp, raw weather ceases they will doubtless recover without any farther treatment.

Silo Problems Solved By Saginaw Silos

In every sense of the word we are in partnership with the farmers, stockmen and dairymen of this country. It's a matter of plain business to build a silo that exactly fits your needs—gives you the biggest returns on your investment. This spirit of co-operation is based on sound business principles. Knowing what folks need and giving it to them at lowest possible cost.

We have figured out your silo problems. Saginaw silos are made of the best of materials. We could build a silo for less, but we won't. For future business and your success, it pays to give the utmost in silo values.

There are certain essentials in silo construction, certain features found in the Saginaw that make it preeminently different from any other silo.

Silo and silage requirements are met in the construction and materials used in the Saginaw silo. It is the steel-built stave silo, wood solidly united and doubly reinforced by steel, the strongest building material known.

The strength of steel and the silage qualities of wood used in the Saginaw silo solve your silo problems. Write for silo book No. 117. See the Saginaw agent in your locality.

THE McCLURE COMPANY
(Formerly Farmers Handy Wagon Co.)
Saginaw, Mich. Cairo, Ill.
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St. Louis, Mo. Ft. Worth, Texas



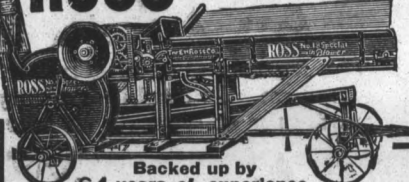
Steel reinforced, glazed vitrified hollow tile. No repairing, painting or trouble; easy to erect; first cost low, and first cost is last cost. It is

Proof Against Air, Sun, Fire Wind, Moisture and Time

Notice End View of B.V.T. Block—double inside and outside walls; triple dead-air chambers—an exclusive B.V.T. feature—insures air-tight joints. Write for free booklet—G

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BRAZIL, INDIANA

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Backed up by 64 years of experience
The Ross is the only machine of this type that is equipped with steel cutting apparatus, steel blower disc, and steel truck. Other machines of this type are furnished with cast iron cutting apparatus, cast iron blower disc. The steel equipment makes the Ross indestructible, and the most reliable and durable silo filling machines on the market. Strong claims made for strength, capacity, durability and ease in feeding. Ask for large catalog The E. W. Ross Co., Box 114 Springfield, Ohio

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ROSENTHAL Cyclone Feed Cutter & Silo Filler

Loses you no time in Rush Season. Three sizes—6 to 18 H. P. Self-feed, with automatic speed control; direct drive to main cutter-head shaft, 2 3/8 in. in diameter, with powerful fan on same shaft. Will not break; will not clog. Emery wheel attached.

Built by manufacturers of ROSENTHAL CORN HUSKERS AND SHREDDERS. Sold on Trial and Backed by Guaranty.

Write for catalog. State power used. Rosenthal Corn Husker Co., Box 2, Milwaukee, Wis.

"Fine Peas and Beans on Poor, Sandy Soil"

A user of Ferguson's Nitrogen Bacteria (name on request) writes with enthusiasm of his excellent crop under very unfavorable conditions. "The Nodules were large and full", he says, "and I am satisfied the land is very much improved."

Ferguson's NITROGEN BACTERIA

used to inoculate the seeds of legumes—peas, beans, alfalfa, clover, vetch—almost invariably gives wonderful results—bigger, better crops. It does more than that: it

Enriches the Soil for Future Crops.
Nitrogen, the food that plants must have, is the thing most likely to be lacking in the soil. Ferguson's Bacteria make use of the great supply of Nitrogen in the air, storing it upon the roots of the plants in such quantities that the crop cannot use it all and a big surplus is left for the future. The same bottle contains all the varieties of Bacteria required for inoculation of any legume.

Quarter-acre quantity, 50c; 1 acre, \$2; 5 acres, \$9. Let us explain why you need Nitrogen Bacteria and why Ferguson's is best. Write for special booklet M free.

We Want Agents—A Very Liberal Offer.

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400,000 Settlers a Year

Immigration figures show that the population of Canada increased during 1913, by the addition of 400,000 new settlers from the United States and Europe. Most of these have gone on farms in Manitoba, Saskatchewan and Alberta.

Lord William Percy, an English Nobleman says:

"The possibilities and opportunities offered by the Canadian West are so infinitely greater than those which exist in England, that it seems absurd to think that people should be impeded from coming to the country where they can most easily and certainly improve their position."

New districts are being opened up, which will make accessible a great number of homesteads in districts especially adapted to mixed farming and grain raising.

For illustrated literature and reduced railway rates, apply to Superintendent of Immigration, Ottawa, Canada, or to the Canadian Government Agent.

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LIVE POULTRY, BROILERS, FRUITS, POTATOES, ONIONS, ETC.

Let us handle your poultry, fruits, farm products. Our 25 years in the same store assures your satisfactory results. CHAS. W. RUDD & SON, Detroit, Michigan.

HAY

Ship your Hay to Pittsburgh and to Daniel McCaffrey Sons Company Pittsburgh, Pa. Ref.—any bank or Mercantile Agency

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

Wholesale Commission House. Griggs, Fuller & Co., Detroit. Want your apples, potatoes, poultry and rabbits. Quick returns.

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Money-Making Farm 120 Acres, \$1700, Part Cash.

Owner has made money, wants to retire; 40 acres fields, pasture for 15 cows, wood and timber; 500-tree sugar bush; comfortable 10-room house, 2 big cow barns, other buildings, newly repaired; well located, mail delivered; if taken now 3 cows and farming tools included; photo and details, page 4. "Strout's Farm Bargains," copy free. E.A. STROUT FARM AGENCY, Station 101, Union Bank Bldg., Pittsburgh, Pa.

UNHEARD OF 64 ACRES FARM VALUES

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Money Makers, Ready Stocked, Must Go—226 acres, silo, big barns, wagon house, ice house, 48 choice Holstein cows, pair mules, pair horses, wagons, harnesses, everything. See catalog, catalogue number 1016. Price for all \$12000, part cash. HALL'S FARM AGENCY, Owego, Tioga Co., New York.

\$4500 60 a. 9-room house, large basement barn, fruit, 15 a. clover, good soil, near Rv. town, Detroit, 40 mi. Other farms. The Ypsilanti Agency Co., Ypsilanti, Mich.

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For Sale—In whole or part. 320 acre Southern Michigan farm. Good soil, buildings and fences. Must sell. O. S. Schairer 214 Dewey Ave., Swissvale, Pa.

Practical Science.

THE MOISTURE CONTENT OF BUTTER.

BY FLOYD W. ROBISON.

Among the articles coming under the jurisdiction of the United States Internal Revenue Department, alongside of oleomargarine, is abnormal butter. Abnormal butter is, as the term implies, butter which through manipulation, either accidental or planned, has become different from the ordinary marketable product.

It is evident that one of the main points wherein butter becomes a variable product, is in the content of moisture which may be incorporated therein. Some have contended that it is not proper for Congress to prescribe the limit to the amount of moisture in butter but we think there is little question of the authority of Congress in the matter, or indeed, likewise, with the propriety of congressional legislation on this point.

We Believe in a Butter Standard.

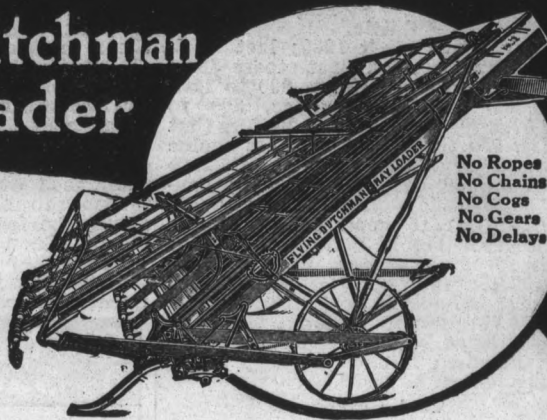
Butter is a food product and as a food product, if for no other reason, a certain standard of excellence should be maintained. We believe that it would be more proper for Congress to rule that a certain percentage of fat is desirable in butter, rather than to say that more than a certain quantity of water should constitute a taxable product. The wording of the statute in that respect is somewhat as follows: After designating the substances which are subject to taxation it mentions "butter which has been so treated that it is made to absorb abnormal quantities of water, milk or cream." Congress did not specify what an abnormal quantity of water, milk or cream is, but left to the Internal Revenue Department the task of prescribing this limit. Accordingly, the Internal Revenue Commissioner, with the sanction of the Secretary of the Treasury, directed that he would construe as abnormal, any butter which contains 16.0 per cent and over of water. With this ruling we are in entire accord for we see no reason why butter should contain 16 per cent water. However, an excessive content of salt is just as objectionable as is an excessive content of water but, of course, there is the salt limit for the reason that excessive salt is not possible because of the exceedingly strong taste of the salt incorporated. **Best Butter Has High Water Content.**

Taking the butter which has been given the most satisfactory score from a standpoint of material, palatability, color, appearance, etc., the percentage of moisture incorporated therein will vary within exceedingly narrow points. It may almost be safely said that the very best butter on the market today, or on the market at any time, will be found on analysis to contain between 14.0 and 15.0 per cent of moisture. This being the case, it may easily be seen that the maximum limit for moisture in butter must be sufficiently high to permit of a reasonable fluctuation from this standard. One may not tell the quality of the butter by a determination of the moisture content, but many butter makers have assumed that this could be done, for knowing that the best butter on the market contains 14 per cent or more moisture they have evidently assumed that all that was needed to make their product of equal value in the market was to place 14 per cent or more moisture in it. The addition of moisture to poor butter does not make good butter. It does seem to be true, however, that good butter made from good material, in the right kind of a way, will accumulate to itself during the process of manufacture in the vicinity of 14 per cent moisture.

(Continued next week).

Flying Dutchman Hay Loader

The One-Man Loader



No Ropes
No Chains
No Cogs
No Gears
No Delays

With this Loader, one man can put on a good, even load of hay, in practically the same time that it would take two men with other loaders.

The Flying Dutchman loads hay, clover or alfalfa without "chewing it up" or threshing out the seed.

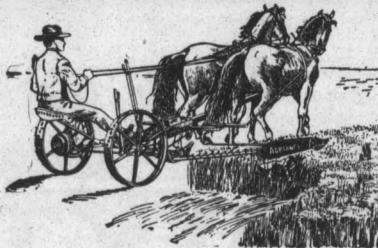
It operates with the long, easy, natural stroke of the hand rake, elevates carefully and loads it on the wagon in excellent condition.

Works on an entirely new principle that does away with all cams, drums, chains, sprockets, rope webs, gears and trouble.

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No Clogging—The yielding deck effectually prevents clogging. Heavy or light hay, swath or windrow can be handled without any adjustment.

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Many ADRIANCE Mowers In Use 40 Years

Are giving excellent service today. No other Mower has such a record because none is so well built.

Adriance Mowers have nearly 60 years of the hardest kind of service back of them.

They are the best made—simplest in construction—lightest draft—most powerful—need fewest repairs, thousands of users will testify.

Adjustable carrying springs take weight from center bar and put it on the wheels, greatly reducing draft and increasing traction.

Cutter Bar follows the ground no matter how uneven it may be.

Automatic spring draft prevents damage to machine, driver or team in case obstruction is struck.

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15-30 horsepower

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Ask for interesting catalogue on the GasPull, No. 352.

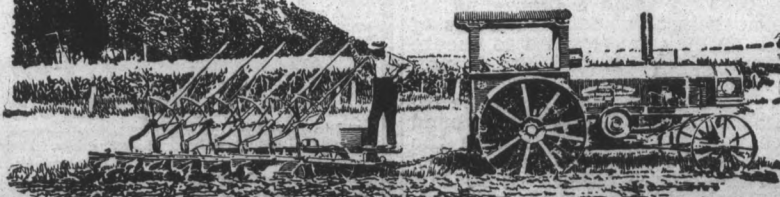
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Big capacity—low upkeep cost—high speed with safety—18 models motor, horse and belt power. The

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GUARANTEED to run cream separators right from either engine or line shaft. Thousands use them. All are satisfied. Write for full information to Howell Machinery Co., Howell, Michigan.

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