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FARM NOTES.

Menace of the Dodder Pest.

The increasing prevalence of the appearance of dodder on Michigan farms makes a repetition of the warning recently published in this department seem expedient. The accompanying cut was made from two specimens of dodder received from a Lake county subscriber, who found them growing in his clover field about one rod apart. The cut was made to include both samples for the reason that they are of different species of the plant. The one on the left, which is commonly called alfalfa dodder, has rather coarse orange colored tendrils and is covered with buds some of which are just beginning to show the white petals of the flower. The other species shown is commonly designated as clover dodder, the tendrils being finer and of pinkish brown and the blossoms, which are well opened, being of a pinkish white. This tangled mass of vines so completely entwine and surround the small stems of clover as to make them almost indistinguishable in the illustration, which shows how little chance the host plant has for growth or even life when once these "bloodsuckers" get hold of it. The abundance of the buds and bloom on the fine vines well illustrates the fact that the plant produces seed in abundance for its own perpetuation. The fact that these two species of the pest were found growing in the same field shows that neither is particular as to the nature of the clover which is its host plant, and these frequent discoveries by the Michigan Farmer readers that they have the pest growing on their farms makes apparent the necessity of care in the selection of clover and alfalfa seed if we are to keep our farms free from this worst enemy of clover and alfalfa. Wherever this weed appears in the clover or alfalfa fields of the state it should be at once eradicated by prompt and energetic treatment. It should be destroyed right where it is by burning before seed is ripened, and in cases where it is generally scattered through fields it should be plowed down before it has ripened seed, since if seed is matured and scattered over the ground it will be necessary to resort to thorough cultivation to secure its germination and to kill the resulting plants before the field can be safely reseeded. The seed is somewhat smaller than clover or alfalfa seed and can be removed by a careful sifting in a sieve having 20 meshes to the inch. But it is far better to make sure that the seed purchased is free from the seeds of this pest, which is occasionally putting in its appearance in widely scattered localities in Michigan, and which can be prevented from becoming troublesome only by that vigilant care which is "the price of liberty." But it is much easier and cheaper to keep our farms free from this and other weed pests than it is to eradicate them after we once get them, hence the repeated words of caution regarding

this old, yet to us new, enemy of the legumes that are almost the foundation of profitable agriculture.

White Clover—Spraying Potatoes.

Does white clover fertilize the soil the same as June clover, and would it be a good plan to sow some with the June and alsike clover and timothy? If so, how much of each should be sown per acre on low ground? I would also like to know how blight starts on potatoes, or how the potatoes look when first attacked. My potatoes look a little yellow with black tips on the leaves, but I think it comes from the dry weather. Would it be a good plan to spray them anyway? If so kindly advise as to the proper formula to use in making the Bordeaux mixture. Ottawa Co. SUBSCRIBER.

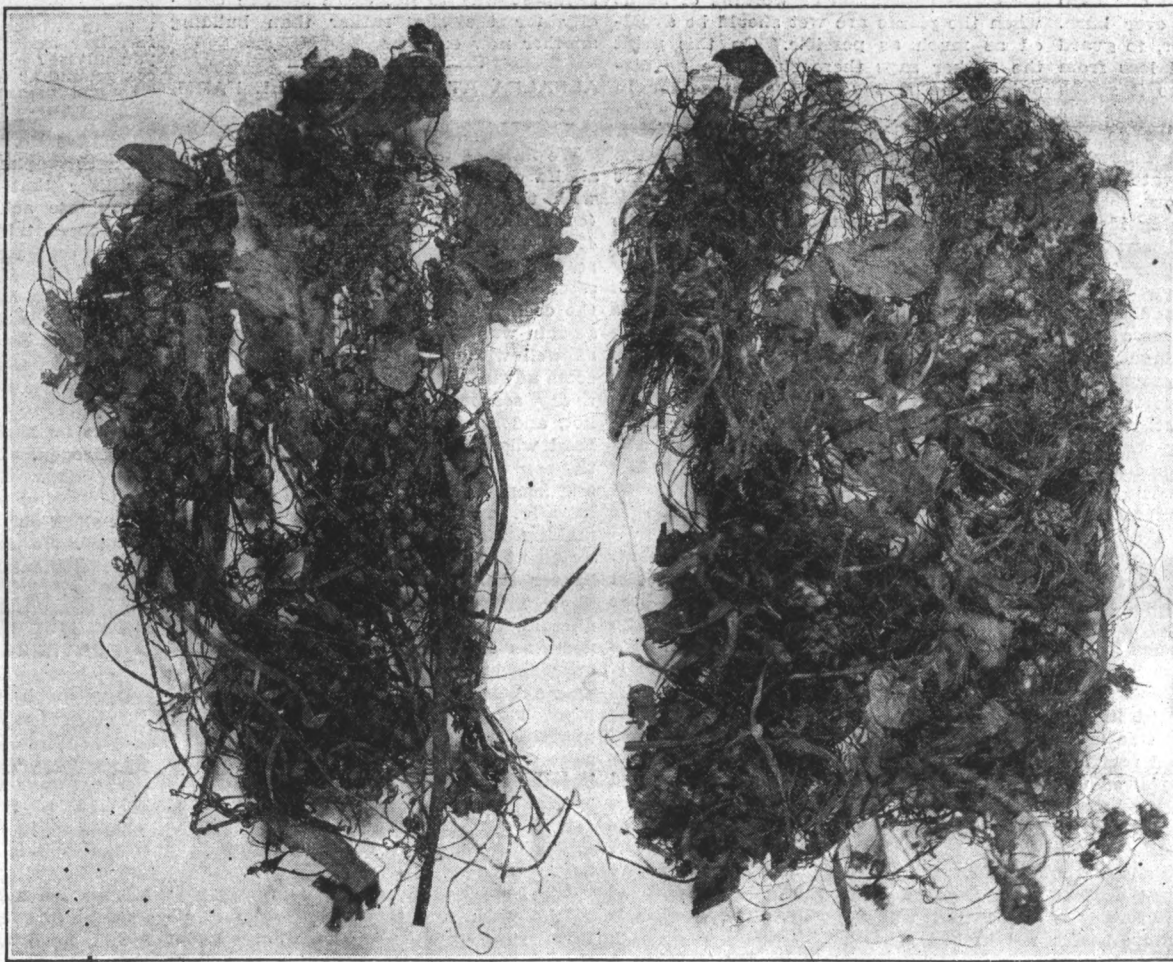
While white clover is a legume and harbors bacteria which help to enrich the soil, it is not nearly as valuable as the June root clover for this purpose for the reason that it sends down no deep roots, and does not add as much vegetable matter to the soil nor bring up as much available mineral fertility from the lower strata of soil. Then it does not have as

wilt and not with blight. Early blight produces some such effect on the vines, but late blight, which is by far the more destructive, has an altogether different effect on the vines. This disease progresses very rapidly under favorable weather conditions, and often a field will be practically killed within a week after the attack is first noticed. Black or dark colored and sunken spots will be noticed on the leaves and the foul odor of the decaying tissues will be plainly apparent as the disease spreads. Its prevalence and progress depends not a little upon favorable weather conditions for the germination of the blight spores. Muggy weather, when the temperature remains rather constant both day and night at around 70 degs. favors rapid development. In bright weather, when the temperature runs up to 80 degrees or higher, or down to 50 or below at night, there is comparatively little danger of the late blight developing to a harmful degree. But when the atmosphere is humid with cloudy days and

undoubtedly pay to spray the late crop as a protection from loss by blight. But unfortunately we can not tell when the blight will be troublesome, and if we wait for it to put in an appearance it will be too late to spray the crop for protection. Bordeaux mixture is not a cure for the disease, but simply a protection. It provides a defence against the blight spores entering the plants through the leaves, or weakens their vitality to a marked degree, and if it will pay to spray at all it will pay to spray before the blight appears and at least as soon as favorable weather for the development of the blight fungus occurs. This has been the writer's practice for several years, and he will spray again this year, although there has been no evidence of blight in his neighborhood in recent seasons. But it would appear that this is one of the years when potatoes will bring a fair price. At least the present condition of the crop is not placed very high by the August crop report, and the stand is not generally very good.

Then the weather has not been favorable for the early crop over a wide section of the country, and while the crop may develop later and be better than is expected, yet it seems wise to avail ourselves of every means at hand to promote a good yield.

In preparing the mixture for spraying potatoes it is much more convenient to have the copper sulphate dissolved ready for use. About three pounds of the copper sulphate can be dissolved in one gallon of water, and the solution should be made in a wooden barrel as it will corrode metal. The writer has always use two gallons of this stock solution to 50 gallons of water, making six pounds of the copper sulphate. Recent experiments seem to demonstrate that four pounds is sufficient, but our sprayer is of an old type and does not apply it as heavily as some of the more modern machines, for which reason we have continued to use the stronger solution. In mixing the solution it is best to add the desired amount of this dissolved copper sulphate to about 25 gallons of water in the spray barrels. Then dilute the



Two Species of Dodder Found Growing in the Same Field by a Lake County Farmer.

good a mechanical effect on hard soils and is nowhere near as abundant a producer. For these reasons it would not pay to sow the seed with the other clovers in seeding down the land. Where it has grown on fairly fertile soils it will often run in if the sod is left for two or more years, especially on pasture land, occupying vacant places in the turf and adding to the variety and yield of feed. But on low land the alsike clover will prove the best producer and the most enduring, and should be made a larger factor in the mixture of grasses sown than June clover. Redtop is also a good grass to sow on low lands either for hay or pasture, especially where the sod is to be left for some time, and should always be included with the clovers and timothy in seeding such lands.

Probably the potatoes described in this inquiry are affected with sun scald or

warm nights, the conditions are favorable for the rapid development of the disease.

Whether it pays to spray for the disease each year, whether the blight seems likely to be prevalent or not, is a difficult question to answer. The experiment conducted at a number of experiment stations to determine this point seem to indicate that it does, as the yield is increased considerably even when the late blight is not present. Of course, when potatoes are cheap as they were last year this is not much of an object and would not repay the cost of spraying. But one can never tell when potatoes will be plentiful and cheap or when they will be scarce and high very far in advance of the season for harvesting the crop. The latter condition is sure to prevail when the blight and other similar causes shorten the crop, so that in such seasons it would

lime in a similar amount of water, straining same to remove any lumps and mix together in the spray barrel. Heretofore we have always slaked the stone lime and kept it on hand in a paste form, but this year we have some hydrated lime which will be used for the purpose. Various quantities of lime are used, varying from four to six pounds to 50 gallons of the mixture, but enough should always be used to neutralize the vitriol and prevent the burning of the vines. It is much more safe and convenient to have at hand some test by which we can tell when enough lime has been added to make the solution safe. Several such tests are available, but we have found the following to be satisfactory in use. Get ten cents worth of ferro-cyanide of potassium (yellow prussiate of potash) and dissolve in a little water. When the lime

has been added dip out a little of the solution and add a few drops of this test solution. If no discoloration of the mixture occurs, sufficient lime is present to prevent burning of the vines. If the mixture is discolored by the addition of the test solution, more lime should be added and the test repeated. Additional lime does no harm so long as the mixture is kept at a proper consistency to work well in the sprayer.

Just when the spraying should be commenced and how often it should be done is a matter for individual judgment. But the vines must be kept well covered with the mixture to insure a profitable degree of immunity. This may be accomplished by three or four applications in the average season, and it may take five or six applications to accomplish the same results when heavy rains occur frequently to wash the solution off the vines. But if it pays to spray at all it pays to do the job thoroughly, which means to begin before there is any appearance of blight and keep the vines covered with the solution until the crop is nearly matured. In a normal season spraying should be begun when the plants are six to eight inches high. This year early spraying has not seemed necessary, but it should not now be delayed longer if it is to be done at all.

DRY WEATHER FARMING.

We have all read of the dry farming conducted in certain parts of Texas and the west where no moisture falls from seedtime to harvest, yet it is claimed that fairly good crops are grown by means of almost continuous cultivation. There being no showers there is nothing to pack the ground and make it crusty and a dust mulch is quite easily kept.

We might reason from this that we can apply the dry farming principle to our own farming during dry seasons, and perhaps we can. The disadvantage is that we do not know soon enough when it is going to be dry or how long it will last any more than we know when our barn will burn or whether it will ever burn. We keep an insurance, however, to guard against the possibility of total loss from such a catastrophe, and just so it seems necessary to continue cultivation and stir the soil after each rain as we do not know whether a drought will follow or not, and it is too late to cultivate to the best advantage after we find out.

We are trying the dry farming idea in our corn fields, potatoes, and strawberries, yet I am not sure whether it will pay. However, it looks reasonable that a field kept free from weeds and covered with a dust mulch will have more water to evaporate through the foliage rather than from the surface of the ground, and hence the growing crop will receive more benefit from it. Since harvest we have been over the cornfields every week, going shallower each time and not getting too near the hill. Many cornfields have not been cultivated since the harvest season, yet we can hardly make a comparison between them and say the difference, if any, is due to the cultivating for we do not know just what initial difference there is in the propensity of the soils for holding moisture, or the difference in fertility and humus content, which makes a great difference in moisture conditions. This fact is clearly demonstrated in two corn fields of our this season. One is on land that has been given a good rotation, with plenty of stable manure plowed under, the other is on a field recently bought which has been handled very differently for many years back. The latter soil is hard and seems dead and dry in spite of plenty of cultivation and a good coat of manure in the spring, while the former is loose and appears to hold moisture better—not too loose, of course, but having enough humus so it does not bake and pack.

Perhaps the trouble with us farmers is that we do many things without being thoroughly satisfied that the operation is a paying one or we neglect to do things because we do not know whether it will pay or not. If we knew we were to get double wages for every day put on the corn field at after-harvest cultivation, many of us would cultivate more than we do while if we knew we would not get paid for the labor few of us would do it. After all, most of our operations must be measured by dollars and cents. One reason why we do not know more about the value of these operations is because it requires extra labor to experiment and find out to our own satisfaction. We can to a certain extent, depend upon the experiment stations to do this work for us, but there are some things that we must

work out on our own farms to be fully satisfied with results. For instance, in cultivating if we will leave some rows uncultivated in the same field where conditions are similar and then measure or weigh the corn from an equal number of rows having the different treatments we will have a fair test, and a succession of these tests on different seasons will establish a fairly reliable rule.

The Department of Agriculture is now working along the line of determining whether as good a crop of corn can be grown by simply scuffing off the weeds, keeping the field clean without cultivating, as can be grown by ordinary cultivation. Preliminary experiments seemed to show that by keeping corn clean a good crop could be grown without cultivation, but they are not making any statements until trying it out further in different parts of the country, which is being done this season. Possibly we will have to change our ideas of cultivation but we will wait and see if it is not some theory that, like the soil culture, instead of mature proved to be rather a theory than a safe practice.

Calhoun Co.

S. B. H.

SELECT HEALTHY SEED BEANS FROM THE FIELD.

Relating to anthracnose in beans, a paragraph in the Experiment Station Record says:

"The collection of clean seed by hand picking, while in some instances resulting in a diminished amount of disease, in general has proved of no value in eradicating or even partially controlling the spot. The removal of diseased seedlings, which is impracticable except in short garden rows, it is believed may be disregarded as a factor in controlling the disease. Spraying with Bordeaux mixture, if exceedingly thoroughly done, is effective in controlling the disease, but under field conditions with the present machinery it is not believed sufficiently advantageous to warrant the expense and trouble. The cultivation or working of beans when the plants are wet should be avoided as much as possible. On this point the author says there should be no dispute. The spores are held together in mass by a sort of mucilage which is dissolved during the time the plants are wet, and at this time any disturbance of the plants scatters the spores to other plants that may not be affected."

In considering methods of control of the disease, the author places most reliance on clean seed. This can be obtained by securing seed from non-infested regions or it may be careful selection of the beans in the field, seeing that no spots are found on any of the pods. If on careful inspection the pods appear sound, the seed will not be diseased within. These apply equally to bacteriosis, another common disease among beans.

W. J. BEAL.

LILLIE FARMSTEAD NOTES.

It is pretty dry to plow for fall wheat, but it is the time of year where if you practice sowing wheat after oats the plowing must be done, or there is no chance to get any wheat in this fall. We have one 20 acre field, plowed August 8. I don't think there was a particle of moist dirt turned up with the plow on the entire field. This field was into corn and potatoes last year and into peas and oats this year. It plowed up much better and much easier than one would imagine, the ground being so dry. We immediately followed the plow with a roller and then a spike tooth harrow, and if we should get a good rain, the balance of the fitting will be easy. The ground is not in bad condition.

When the ground is so dry it takes a lot of plow points. My men used on the average four points each per day, one point lasting only a quarter of a day. Of course we did not use all new points, but the points are sharpened. I have a good emery wheel that we can run with the gasoline engine and it is a short job to sharpen these points. I know of no piece of machinery on the farm that gives better satisfaction than this emery wheel, when you want to plow real dry land. It takes some little skill to sharpen a plow point on an emery wheel. Some people don't understand it at all. The lower edge of the shear and the point wants to be straight and sharp. Some attempt to grind the point on both sides. This is wrong. You want a straight edge like a plane or a broad axe, and the grinding must all be done from one side. On the bottom side it is a good plan to grind out a little bit to make it just a little bit

hollowing back of the edge, on the same principle as a hollow ground razor, then the point will tend to wear sharp instead of wearing dull. Just as soon as the lower part of the point is worn, then the tendency is to run out of the ground instead of staying in the ground.

The feed in our cow pasture is practically all gone. The cows have eaten the coarse wild grass that grows in the low places, and we have to depend almost entirely on the feed we give them in the barn for their ration. The cows are being fed now two feeds of clover hay a day, and two feeds of grain, night and morning, just about the same as we would feed them in the winter time. Of course, it seems expensive to feed cows in August a ration that is necessary to feed them in the winter time, but it must be done. I intended to have sufficient ensilage to last through the entire year, but we fed our last feed the first of August. As a matter of fact, I intended to stop feeding when the pastures were good, but the cows ate a feed of ensilage every morning, even when the pasture was at its flush. I really didn't expect that they would do this, I thought we would have to stop feeding it for a spell until the pasture was gone. But it made no difference how good the pasture was, they ate their feed of ensilage all up clean, so we let them have it. What I want is silo capacity sufficient so that they will have all they will eat up clean every day in the year, summer or winter. It will make a large hole in the hay mow to feed the cows two feeds of clover hay from now until the corn is ready to go into the silo, but we will have to do it, and then scrimp them on hay after we get the corn silage. I think we have sufficient ensilage corn this year so that we will have enough to last the entire year, providing I put an extra story onto my beet top silo so that I can have more capacity there, and if experience proves that I am still shy, I shall build the old silo up ten feet higher the same as the new. It is only forty feet now. That, I believe, will be the cheapest way to get extra storage capacity for the silo, rather than building another new one.

ALFALFA AT BUCKELL HILL FARM.

Second Cutting.

We finished drawing our second crop of alfalfa on August 1, and are well pleased with the result as we drew in 16 tons (estimated) of well cured hay. This makes 43 tons from the nine acres so far this season. The most of it was cut 31 days after the first cutting. It was cured in the cock under hay caps, although as far as rain was concerned it would have been as well without the caps. Still, there is some advantage in using hay caps even in a dry season, when the sun is scalding hot, and especially if the wind is blowing hard when the hay is being bunched, for the cap with its weights will hold the hay and keep it from blowing over. And right here let me say if you are thinking of making hay caps see that the weights weigh at least half a pound, as anything lighter than that will not give satisfaction. The concrete weights made in egg fillers weigh that much and are as near right as anything I know of. Most of our showers are ushered in with considerable wind and if your weights are too light, away goes the cap and the hay is exposed to the storm. This has not been a very good season to advocate hay caps but there is a good deal of satisfaction in going to bed with the thought that if it rains before morning it will not make much difference in the quality of your hay.

We have had it very dry in this part of the world and this second crop of alfalfa grew, practically speaking, without rain. We have since had a few light showers but we are still very much in need of rain. The third cutting is coming on somewhat slower than the second and if we do not get rain very soon it will be much lighter.

We cut the new seeding that was sown with a few oats the 21st of May, and secured one and a half loads, mostly oats. The alfalfa is thick enough at this writing but very small. What will be the outcome I dare not predict at this time.

Oakland Co.

C. R. Cook.

BEST PAINT FOR INSIDE OF SILO.

What is the best preparation with which to paint the inside of my tamarack silo? Is it best to salt the corn when filling the silo?

Benzie Co.

R. B. R.

Probably the best paint that can be used on the inside of a silo is simply coal tar thinned with gasoline, enough gaso-

line to thin the coal tar so that it will spread easily with the brush, and paint it on as you would paint. Use a large brush, a whitewash brush, for putting this on. It is not necessary to put it on with a paint brush, and it can be done much easier and faster with the large brush. I might add that few people think it necessary to paint the inside of a silo now. This used to be a common practice years ago, but it has been given up by most people. The silo will last just about as long, some people think just as long without painting and the ensilage will keep just as well.

COLON C. LILLIE.

ALFALFA IN EASTERN OCEANA CO.

Last fall after I harvested my rye I plowed and fitted three acres for alfalfa, sowing the same about September 1. Unfortunately my man only sowed 10 lbs. to the acre, making a thin stand. This spring I sowed 5 lbs. more and harrowed it in with a spike tooth harrow. Needless to say, the rye came up and I thought it would surely kill the alfalfa out entirely and so let the rye grow and harvested a fair crop this year. Since harvest, although it has been extremely hot and dry, my alfalfa has grown rapidly, is now nearly knee high and bids fair to be ready to mow a crop of hay this fall. Another piece of ground I mowed for hay last year and then plowed up and sowed to alfalfa in August. That field has already cut two crops of alfalfa this year and is now nearly ready to mow again, notwithstanding the fact that we have had very little rain. The soil on which this was sown is quite light and descends sharply to the south.

A. C. GOWDY.

KIND OF FERTILIZER FOR WHEAT.

I have 16 acres of oat ground that I wish to plow for wheat as soon as oats are off. It is fine sandy loam with a stiff clay subsoil, the clay cropping out in places. It is a comparatively new field having been plowed but six times. Also have 18 acres of timothy sod, well manured, which is at present growing a good healthy crop of beans. Expect to sow this to wheat also. What analysis of fertilizer and how much per acre would you advise? Would you use same on the oat ground as well as on the bean ground? The soil of the bean ground has about same composition as that of the oat ground.

Oakland Co.

J. B. S.

On this upland clay soil I would use a fertilizer that is comparatively rich in phosphoric acid. For my own wheat, I use one containing one per cent ammonia 10 per cent phosphoric acid and one per cent potash. If the ground was sandier, I would use a little larger per cent of potash. This soil ought to be pretty well filled with available nitrogen so that I would not use one especially rich in nitrogen, because nitrogen is the most expensive part of the fertilizer. However, it will do no harm to use a larger per cent of nitrogen. It is possible that on this land you would get splendid results by simply using phosphoric acid. I believe that all of our land needs phosphoric acid, much more in proportion than of the other elements of plant food.

COLON C. LILLIE.

HOW MUCH AND WHAT KIND OF FERTILIZER AND SEED TO USE.

How much fertilizer should I use on a sandy field which I wish to sow to oats in spring, and which kind? What is the best seed to use to seed it down?

Tuscola Co.

H. E. H.

The common practice is to use about 200 lbs. of fertilizer per acre on oats, wheat, or, in fact, on any of the cereals. If the land is pretty well run it pays to use a larger amount. I should say 250 to 300 lbs. per acre would be about the right amount to sow on this sandy land and I would have the fertilizer comparatively rich in potash. What I mean by this is to have a fertilizer contain about four or five times the amount of potash that it does ammonia. A 1:9:5 would be a splendid formula for seeding sandy land.

Now as to the kind of seed to use to seed this down, I should say without any question, use clover, or alfalfa. There is no kind of land that clover does better on than a sandy land, if you only supply the right kind of plant food and in sufficient quantities. That is all that is necessary. And there is no land that needs clover any worse than sandy land. Therefore I should say by all means use clover, either alfalfa, or common red clover.

COLON C. LILLIE.

ANY PICNICS?

We will be glad to publish the dates and place to be held of any picnics or farmers' gatherings of any kind, if those interested will let us know.

TIME TO SOW ALFALFA—SOIL INOCULATION.

I would like to ask a few questions about alfalfa culture, as I want to sow a piece this year and have a small piece all ready. Would like to know when you consider a suitable time to sow. My farm is in Wexford county, where the snow lies on all winter, so that there is little danger of winter-killing. I have some alfalfa that was sown two years ago which has made a good growth this year. Now I desire to use soil from this piece for the purpose of inoculating the new piece, and what I want to know more particularly is where the nodules are to be found. In other words, how deep in the ground will they be found and how should I work it to dig the soil and remove it to the other piece. I judge the top of the soil should be skinned off a certain depth before the soil for inoculation should be taken off, but I do not know how deep. Also, what kind of alfalfa you consider best for that climate, as I understand there are several different varieties of it. I understand about 20 lbs. of seed to the acre is about the right amount to sow. Wexford Co. J. R. C.

I am not sure that there is any time that is exactly right for sowing alfalfa under all conditions. In fact, I am of the opinion that there are several things that must be taken into consideration to make any time the right time. I presume J. R. C. wants to know whether it is best to sow in the spring, in the heat of summer or in the fall, and I am inclined to believe from my experience, and also from my observation, that if weather conditions are right, it will do well sown at any of these times. I believe the majority of people will agree that just before mid-summer is probably the best time on the average. Others have had splendid success sowing in August. Still others have had splendid success in sowing early in the spring. If weather conditions, especially moisture, are favorable, a good catch can be secured if sown at any of these times. On the other hand, if weather conditions are not favorable, then it is difficult to get a catch at any time. A year ago I sowed my first alfalfa. I had intended to sow it in June but I was not ready and weather conditions were not favorable in July. The first rain that came in August we sowed the alfalfa, we got a fine stand. It came up thick and even and as I have before stated, stood the winter well. But it was injured this spring by the frost or unfavorable weather conditions and has not amounted to much this summer. Last spring I seeded a field to alfalfa with oats, sowing the very first of April, seeding alfalfa at the rate of 20 lbs. per acre. I have a splendid catch. It stands thick and even over the entire field. This dry weather is hard on seeding of any kind and I do not know whether the alfalfa will weather through or not. I shall seed another field next spring with oats. I also, as I have stated before, mixed alfalfa with the clover seed and sowed it on the wheat in March, and I have evidence that alfalfa will grow sown under these conditions. Next spring I intend to mix a larger per cent of alfalfa seed with the clover. My experience, therefore, would lead me to believe that alfalfa would grow if sown at almost any time of the year, if sown under favorable conditions. Like any other plant, it will not do well at any time of the year if the conditions are not favorable. I would, therefore, recommend to J. R. C. to sow this alfalfa just as soon as moisture conditions are right. If the ground is moist now, I would sow it immediately. If the ground is too dry to get proper germination, then I would wait as late as the first of September to sow it. There is a little risk, however, in sowing it then because of the weather from then on is not growing weather, it will not get very much of a start before winter. Of course, as he says, if it is covered all winter with snow, it will not winter-kill, but it will be pretty tender and not have a very good root to stand the thawing out in the spring, and if I could not sow it until after the last of August, I would defer sowing until early spring.

Now, with regard to inoculation of the soil by using the soil from an old alfalfa field. I know nothing about this from personal experience, but my understanding is that this is the best possible way of inoculation, and J. R. C. can do this with confidence. The top soil is what you want. That portion of the soils which is turned over with the plow. You get it by plowing the field and taking the furrow. Or you can get it by going into the field anywhere where the alfalfa grows thick and rank and has evidence of being healthy and simply spading up the ground, taking this soil and screening it to get out the vegetable matter, the roots and the stones, etc., so that it can be sown with a drill upon the land. If your alfalfa field is two years old, it undoubtedly has bacteria nodules on the roots. You can very

readily see these by carefully taking up the plant and looking at the roots. There will be little nodules, or bunches on the roots, and any of this soil will contain sufficient bacteria to inoculate the new seeding. After the soil is screened, you can sow it with a fertilizer drill just the same as you sow fertilizer, or it can be sown on by hand as you would land plaster, or ashes, and it ought to be harrowed into the ground as soon as possible, because if it is left on top of the ground and the weather is bright and sunny, many of the bacteria will be killed by coming in contact with the direct rays of the sun. Therefore, harrow after sowing just as soon as possible. I believe that 15 to 20 lbs. of seed is about the right amount to be sown.

COLON C. LILLIE.

EARLY PLOWING.

Perhaps it is unnecessary to urge upon Farmer readers the importance of plowing the fields intended for the wheat seeding early and to keep them worked down well until time for sowing the crop. Just now while the ground is so hard from the drouth the manure which remains in the yards, if any, can be hauled to good advantage and spread on this ground, then when the rains come we are ready to turn the soil as rapidly as possible, and to harrow it down after the rains so as to conserve what moisture we have. This answers for a partial summer fallow. Wheat seems to enjoy a well-firmed seed bed, and the early plowing and harrowing



Mules Are Increasingly Popular in Michigan—Team of Benj. Archer, Jackson Co.

will firm the ground as well as conserve moisture.

Oat ground that was plowed in the spring will be more loose and can be plowed without difficulty even if quite dry. Any ground that is plowed dry appears to be better pulverized than when plowed wet, that is, it becomes pulverized after the lumps are dissolved by rains, and in some soils there are few lumps to dissolve even when plowed in dry weather. If there is plenty of power available a drought need not stop the plowing but if we wish to economize horse labor we should try to get our wheat ground plowed as soon after heavy rains as possible.

Calhoun Co.

S. B. H.

NEW SEEDING KILLED.

For the first time within my memory I fear we will have to accept a failure of new seeding with wheat. There was a fine catch in May and early June, but now clover shows only in patches and I fear there will not be enough to pay to save. This will necessitate a change in the rotation, as we shall probably have to leave the clover sod intended for corn for another hay crop. There is still a good stand of clover here and I think much of it will make a live of it, and with the timothy that comes in will make a good cutting of hay next year. One piece of new seeding that we were quite anxious about getting a catch on we will plow up and either reseed with a nurse crop, or will sow wheat rather thinly. The other field which is quite rich in humus I think we shall leave for corn, putting on a dressing of manure in the spring or winter. The oat field which we will put into wheat this fall is on rather low ground, and parts of it are seeded naturally with a good catch of clover. Had we sowed seed on this field we would have had a catch over most of it. A failure of the seeding makes us think of alfalfa.

Calhoun Co.

S. B. H.

LIVE STOCK

SOILING THE STOCK FROM THE CORN FIELD.

With the shortage of pasture which has resulted from the unusually severe drought, many farmers are confronted with the problem of supplying supplementary feed of some kind or allowing the stock to shrink in flesh and get out of condition. Far too many farmers seem to think it will not pay to use the immature corn for soiling purposes, even for the cows which are kept for the family supply of milk and butter. Most commercial dairymen have long since learned that it does not pay to let their cows shrink in their milk flow at any cost of feed, but this lesson has not been learned by many farmers who keep only enough cows to supply the home demand for dairy products, much less that it is just as necessary to the profitable maintenance of any kind of live stock on the farm to provide them with a ration which will keep them thriving and gaining in flesh, even during the season of short pastureage. But nothing is more certain than the fact that if it pays to keep stock at all it pays to feed them well, and it certainly does not pay to starve them in the summer season, when they should be making the cheapest gains in weight, for the sake of providing them with winter feed which, in this event, will go largely



Warranted to give satisfaction.

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A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

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If your druggist can't supply you Send \$1 for 30 Days' Treatment

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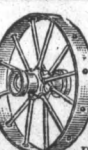
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1 MAN AND ONE HORSE DO YOUR BALING CHEAPLY Our Daisy SELF-THREADING, self-feeding one-horse hay press is the only one on which one man can do all the work. First successful self-feeding device. Self-feed, automatic condenser increases results. Open side hopper. Five days free trial. Write today for prices and reports of actual work. GEO. ERTEL CO., Quincy, Ill.



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will make your old farm wagon as good as new. Save money because they never need repairs. Write for our big free book telling all about them and how they pay. Empire Mfg. Co., Bensenville, Ill.

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with a little succulent feed each day.

The lambs can be turned right in the corn field for a time at this season of the year without damage to the crop and with benefit to the lambs if there is no other good feed for them. Most of us do not give our corn fields such good culture that there are no weeds growing in and about the hills, and there is always some good feed along the fences which would be eagerly appropriated by the lambs. They will also trim out a good deal of the grass and weeds in the hills of corn and will do little if any damage to the standing corn until the ears begin to ripen and hang down.

Of course, the writer would not recommend the wasteful use of the growing corn for soiling purposes, but to the extent which it is really needed for the maintenance of proper growth and condition of the live stock maintained on the farm it will pay to use it, and sometimes the only other alternative is to get rid of the stock. But when these conditions prevail it is always an unfavorable time for marketing the stock, and the advance in prices which can be secured by tiding even the store stock over such seasons of short pasturage by resorting to the corn for soiling purposes will represent a greater saving than is generally appreciated.

LATE SUMMER CATTLE FEEDING.

The extremely dry weather which has prevailed in most sections of Michigan has also been a feature of the season in much of the range country, and throughout the north central and northwestern states. This general condition has resulted in a general shortening of pastures, which has had the effect of sending relatively large numbers of stockers and feeders from the drought stricken territory mentioned, for the reason that good pasture is not available for carrying these cattle along to the winter feeding season. This condition has had the effect of making stockers and feeders much cheaper in price at the present time than they would have been under normal weather and market conditions, a fact which may well be noted by the Michigan man who has been in the habit of feeding a few cattle each year. While the pasture is not available for carrying these cattle until the winter feeding season, there is a possibility that they might be profitably fed from the corn field from this time on, instead of waiting for the crop to mature and be fed from the silo or the shock. Where ensilage corn is available to start them on, they will make a very good growth on this feed if soiled in the dry lot or pasture, and the corn crop when matured will make cheaper gains if fed in the same way than it will if fed during the cold weather of winter. This being true there is a prospect that cattle bought on the present market and fed for the early winter market as above described, may make a better profit for the feeder than would ordinary feeders fed in the manner usually followed on Michigan farms. Of course, market toppers could not be produced by this method of short feeding cattle, but the cost would be comparatively cheap, and if the cattle are purchased on a favorable market for this kind of feeding the spread in price between purchase and sale may be larger than usual, and this is a large factor in the making of a profit in cattle feeding under our conditions. At least this possible method now open to the Michigan feeder is well worthy of careful consideration on his part.

MARKETING THE SURPLUS HORSES.

With the revival of horse breeding in Michigan the problem of the successful marketing of the surplus animals is one which may well engage the careful thought and attention of the average farmer at the present time. First the question naturally arises, where a good team has been bred and raised on the farm, whether they should be retained on the farm and some of the older and poorer horses sold, or whether the young horses, which will bring the better price, should be sold from the farm. Now this is, of course, a question for solution in each individual case, according to the circumstances which surround the owner of the horses. If the extra revenue which may be derived from the young horses is not particularly needed, it will undoubtedly be a good plan to keep the best on the farm, selling the older and less valuable animals. This is the more true with regard to the good young mares, which may have a value for brood mares above their actual value in the way of providing mo-

tive power on the farm, and this should, of course, be taken into consideration. In fact, in the selection of horses to keep on the farm it is always the part of wisdom to keep mares, since they are as valuable for work, are cleaner to care for in the stable and are available for breeding purposes at any time in their period of usefulness when it may seem desirable to increase the horse stock kept on the farm. Even when the horse market is not such as to make it seem a source of profit to breed horses for sale, it is much more satisfactory and profitable to raise those needed to replace the older animals kept on the farm than it is to be compelled to step out and buy the horses which may be needed.

But apart from the considerations above noted, the question should be decided on business principles rather than sentiment. Horses at the present time are bringing better prices than for many years, if not better prices than ever before in the memory of the present generation of farmers. Just how long this condition may obtain none can predict with certainty. That there will continue to be the usual ups and downs in the horse market in future years as there have been in the past is a reasonable assumption. This being true it is a good time to take the profits when they are going, and the farmer who has a good young team to sell which can be spared from the farm will be making no mistake in turning them into cash at the present attractive prices. If they are well grown and are placed on the market during the winter or spring in good condition and well broken, they will add a nice sum to his bank account. Under these conditions it is undoubtedly good business sense to take the big figure when it can be obtained and provide for the home needs in the more or less uncertain future of the horse breeding business.

AMERICAN BLACK TOP MERINO SHEEP BREEDERS' ASSOCIATION.

Report of 24th Annual Meeting.

Mr. and Mrs. C. E. Kleckler, of Oak Grove, Mich., entertained the 24th annual meeting of the Improved Black Top Merino Sheep Breeders' Association on Aug. 10, with about 100 guests present. Among the out of town guests were Mr. and Mrs. O. M. Robertson, of Eaton Rapids, Mr. and Mrs. Fred. Howe, of Eagle, Mr. and Mrs. L. L. Harsh, of Union City, Mr. Beach, Mr. and Mrs. O. Luick, of Chelsea, Mr. Backus, of Pottsville, Mr. Colister, of Lansing, Mr. Gibbons and daughter of Detroit, Mr. Burkhart, of Chelsea, Mr. and Mrs. Marshall, of Stockbridge, Mr. and Mrs. C. Moeckel, of Munith, Mr. and Mrs. Crafts and Mrs. Turbush, of Fenton. A fine program was rendered during which Mr. Gibbons gave the breeders many good thoughts concerning the breeding and care of sheep. Mr. Hopkins, of Oak Grove, gave the guests a fine welcome and Mr. Burkhart responded. Officers were elected and the breeders all did their part to make the business a success. Dinner and supper were served and the people were taken to their trains in autos and carriages, all feeling they had enjoyed themselves once more.

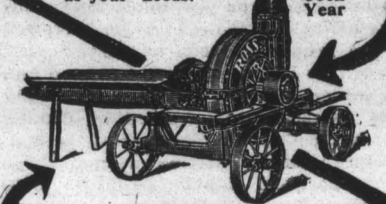
Julius Thorman, of Elgin, Neb., carried off the honors in the Chicago market last week by selling four car loads of prime horned Shorthorn steers of his own raising that averaged 1,536 to 1,555 pounds at \$8.45 and \$8.50 per 100 lbs.

When the hog market rallies the lighter and medium weights are nearly always the kinds that advance perceptibly, and it is almost impossible to start an upward movement in heavy lots. Buyers show a marked preference for good bacon pigs. Declines have taken place in prices, but good hogs are still making money for their owners. Looking backward, it is seen that at this time in 1896 hogs were selling in the Chicago market at \$2.65 to \$3.40, while as near as this time in 1905 sales were made at \$5.25@6.

The cattle now arriving at the Chicago stock yards are made up to a large extent of grass-fed stock, from farm, as well as from range, and the effects of the drought are plainly seen. The arrivals are running largely to 1,050 to 1,200-lb. steers, with a rather large showing of thin cows, while the ranges are sending in much larger supplies of cattle than is usual at this time of the year. Scattered rains over Iowa and Missouri have partly revived the pasturage here and there, but large numbers of thin cattle are being shipped out of both states, as well as from Nebraska, while Minnesota and South Dakota are contributing large numbers of grassers which, under ordinary circumstances, would not come to market until a month or two later. All these liberal offerings burden the cattle market and work seriously against the interests of sellers, giving the packers control of the market. At such a time it is sheer folly for farmers who are well provided with pasturage and corn to send in their cattle before reaching maturity, and most of them are holding their stock.

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has 60 years' experience behind it—more experience than any other machinery of its kind made. It has thousands of enthusiastic owners in every dairy and intensive farming district in the U. S. It is not only

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Our large free catalog shows our complete line. Write for it.

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Experienced Farmer want's position as manager or foreman on farm, general or special farming. E. F. Cutler, 230 Candler, Detroit, Mich.

To Rent—on shares, a 100-acre farm, part market garden. Married man, references required. Address Box 60, R. No. 1, Grosse Ile, Mich.

WANTED—A good man to take care of milking. W. F. STEWART, FLINT, MICHIGAN.

REGISTERED PERCHERONS FOR SALE—1 mare 2-yr-old and 1 stallion 1-yr-old, grays. Stubblefield Register. M. A. BRAY, Okemos, Ingham Co., Mich.

For Sale—Horses, Cattle, Sheep, Hogs, Dogs, or Poultry, nearly all breeds. Sires exchanged. Southwest Michigan Pedigreed Stock Association, R. E. Jennings, Sec., Paw Paw, Mich.

For Sale—One 12-horse Power Traction Engine. Taken on a chattel mortgage. Will sell cheap. Address E. B. Thompson, Northville, Mich.

BREEDERS' DIRECTORY.

CATTLE.

ABERDEEN-ANGUS.

Herd headed by UNULATA BLACKBIRD, 170 8334, one of the best sons of PRINCE 170 50066, and Grand Champion Bull at the Detroit and Grand Rapids Fairs of 1907, 1908, and 1909. Herd consists of Ericsa, Blackbirds, Prides, etc.

WOODCOTE STOCK FARM, Ionia, Mich.

AYRSHIRE BULL CALVES. Berkshire swine. Eggs for White & Buff Orpingtons, White & Barred Rocks, Light Brahmas, White Leghorns and White Wyandottes \$1 per 15. Michigan School for the Deaf, Flint.

GUERNSEYS—BULL CALVES. Herd tuberculin tested. ALLEN KELSEY, Lakeview, Michigan.

ANGUS and Polled Durham Bulls, Hampshire down, South-down, Cotswold sheep. Buy them at Kalamazoo, Grand Rapids, and Detroit State Fairs. JAS. H. HALL, Port Austin, Mich.

Maple Ridge Farm, class Guernseys. Write us your wants. E. & J. T. MILLER, Birmingham, Mich.

CHOICELY BRED HOLSTEIN-FRIESIAN Bull Calves at sensible prices. Cole Bros., Ypsilanti Farms, Ypsilanti, Mich.

HOLSTEIN-FRIESIANS—Bull Calves. Herd Mercedes Royal King. W. B. Jones, Oak Grove, Mich.

TOP NOTCH HOLSTEINS

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

MCPHERSON FARMS CO., Howell, Mich.

15 Holstein Cows, 6 Holstein Yearling Heifers, 10 Holstein Bull Calves from A. R. O. dams. Pay your money and take your choice from my herd of 70. L. E. CONNELL, Fayette, Ohio.

HOLSTEIN BULL CALF from two best families of the breed. C. D. WOODBURY, Lansing, Michigan.

HEREFORDS—Both sexes and all ages for sale. R. E. ALLEN, Paw Paw, Mich.

LILLIE FARMSTEAD JERSEYS.

We have some splendid young bulls for sale. Some of them are old enough for service. They are from cows with records of 30 to 45 pounds of butter last year. Write for description and prices.

COLON C. LILLIE, Coopersville, Michigan.

JERSEY BULL CALF born Oct. 4th, '09. Dam gave 9,386 lbs. milk in one year, test 5 to 5½%. Sires dam's record 10,060 lbs. milk in 10½ months, test 5 2-10 per cent. The Murray-Waterman Co., R. D. 6, Ann Arbor, Mich.

FOR SALE—12 registered Jersey Cows of St. Lambert and Island blood, from 2 to 10 years, all fresh or nearly so. Price \$100 each if taken at once. C. A. Bristol, R. F. D. 5, Fenton, Mich.

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

Register of Merit Jerseys. Official year-by-year records. T. F. MARSTON, Bay City, Michigan.

NORTHERN GROWN JERSEYS

WITH BIG MILK RECORDS. TUBERCULIN TESTED BY STATE VETERINARIAN. ROYCROFT FARM, Sidnaw, Michigan.

DAIRY BRED SHORTHORNS. Can spare a few females. Also bull 12 months old. Citizens Telephone. J. B. HUMMEL, Mason, Michigan.

SHORTHORN cattle of both sexes at reasonable prices. I breed for both milk and beef. Come or write. T. M. SOUTHWORTH, R. No. 13, Box 73, Allen, Mich.

SHEEP.

Parsons Oxford Rams—These big, dark faced rams will produce bigger and better lambs. Grade X \$15.00 XX \$20.00 XXX \$25.00. ROMEYN C. PARSONS, Grand Ledge, Michigan.

Oxford-Down Sheep and Polled

cattle for sale. A. D. & J. A. DeGarmo, Muir, Mich.

OXFORD DOWNS

A few good field rams for sale. H. J. DeGarmo, R. No. 1, Clyde, Michigan.

46 Rams and 100 ewes (reg) Ramboulllets descended from the best flocks. In perfect health in lots to suit buyers. J. Q. A. COOK, Morrice, Mich.

FOR SALE—70 Good Registered Shrop Ewes, 20 yearling rams, 10 ram lambs, one 2-yr. old stock ram bred by Wardwell, E. E. Leland & Son, R. No. 9, Ann Arbor, Mich.

MAPLE RIDGE SHROPSHIRE—Closing out sale choice yearling rams. Ewes all ages, will be sold without reserve. H. STEWART, Lennon, Michigan.

SHROPSHIRE yearling and ram lambs, the best of wool and mutton type from registered stock. GEO. F. ANDREWS, Dansville, Ingham Co., Mich.

24 PURE BRED SHROPSHIRE RAMS for sale 12 lambs and 12 yearlings. Extra fine stock from Imported rams. The Southdown blocky kind, well woolled. Must be sold by September 1st. Address, L. R. SLOTO, Constantine, Michigan.

SHROPSHIRE HALL STOCK FARM

Will import one hundred yearling ewes and 15 rams in June for Michigan and the same for Boise, Idaho, Branch of this farm. Will make a fair price on yearling ewes or rams, also on some aged ewes with lambs at side, for 60 days.

L. S. DUNHAM & SONS, Concord, Michigan.

HOGS.

LARGE ENGLISH BERKSHIRES

Have fine lot of spring pigs of both sexes. Few young sows for fall farrow. Vigorous and strong, the type for profitable pork production. Satisfaction guaranteed. F. A. BYWATER, Memphis, Michigan.

HUPP FARM BERKSHIRES!

WON 189 PRIZES IN 1909.

Stock of both sexes and all ages for sale. Breeders of Guernsey Cattle, M. B. Turkeys, Barred Rock Chickens, Pekin Ducks. GEORGE C. HUPP, Manager, Drawer A, Birmingham, Michigan.

NORTHERN GROWN BERKSHIRES for sale cheap—Yearling sows with litter about ready to wean; three bred ready for service, at about pork prices; boar pigs, for winter service. Need more room for fall litters. For catalog and prices address ROYCROFT FARM, Sidnaw, Michigan.

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

BERKSHIRES

of the most fashionable type and strains. C. S. BARTLETT, Pontiac, Mich.

Berkshire—A few choice fall Gilts bred for early farrowing and a choice lot of Spring Pigs with prices right and the right breed. A. A. Pattullo, Decker, Mich.

DAMS BROS. Litchfield, Mich., breeders of improved Chester white and Tamworth swine. Pigs, either bred by 1st prize State Fair winners. Buff Rock, Buff Wyandotte eggs \$1 per 15; W. Orpington \$3 per 15.

DUROC JERSEYS.

CAREY U. EDMONDS, Hastings, Michigan.

DUROC JERSEYS—75 choice male pigs, 80 choice fall pigs, 6 sows with pigs, 10 show prospects in fall sows. Write for particulars. J. C. BARNES, Coldwater, Mich.

DUROC JERSEY SWINE. Shepherd Dogs. B. P. Rock eggs, \$1 per 15. J. H. BANGHART, Lansing, Mich.

Chester Whites and Guernsey Cattle. Also 102-acre farm. A change of business and everything for sale before Sept. 25th. WILL W. FISHER, Watervliet, Michigan.

IMPROVED CHESTERS Choice Pigs of March and April farrow either sex. W. O. WILSON, Okemos, Mich. (Both Phones.)

O. I. C. Hogs

all ages. Sows bred. Males weighing 195 lbs. and more. H. H. JUMP, Munith, Michigan.

O. I. C.—For Sale a few choice pigs of March and April farrow in pairs not akin. Satisfaction guaranteed. A. Newman, Marlette, Mich., R. F. D. 1.

O. I. C. REGISTERED PIGS, 10 to 12 weeks from World's Fair winners. Glenwood Stock Farm. Zeeland, Michigan. Phone 94.

O. I. C. REGISTERED PIGS March and April litters. Pairs not akin. HENRY RIGTERINK, Hamilton, Michigan.

O. I. C.—SPRING PIGS and a few BRED SOWS at reasonable prices. C. J. THOMPSON, Rockford, Michigan.

RECORDED MULE FOOTED HOGS

are said to be immune from hog cholera. Stock of all ages for sale. John H. Dunlap, Williamsport, Ohio.

150 POLAND-CHINA SPRING PIGS

either sex, with size, bone and quality. Bargains on early fall weaned pigs. I ship c. o. d. and furnish pedigree promptly. Write for prices.

WM. WAFFLE, Coldwater, Michigan.

FOR SALE—4 P. C. boars ready for service. Eggs for hatching & prize winning Regal White & Columbian Wyandottes, Zach Kinne, Three Oaks, Michigan.

Large Type Poland-Chinas—Largest in Mich. Pigs now ready to farrow at 4½ months old. Will deliver what I advertise. W. E. Livingston, Parma, Michigan.

POLAND-CHINAS—Fine lot spring pigs now ready to ship. WOOD & SONS, Salfine, Michigan.

POLAND CHINAS—Spring pigs of either sex for sale. E. D. BISHOP, Route 88, Lake Odessa, Michigan.

POLAND-CHINAS—Sows bred for Sept. farrow. Boars ready for service; spring pigs, either sex. Write L. W. Barnes & son, Byron, Shiawassee Co., Mich.

P. C. PIGS Singly or in pairs not akin. Minorca eggs \$1.50 per 15. R. W. MILLS, Salfine, Michigan.

Poland-Chinas—Boars, Gilts and Pigs of quality at the right price. B. M. WING & SON, Sheridan, Michigan.

Poland-Chinas—Large stiled, early spring pigs, and older sows bred. Also Shorthorn calves. Prices right. Robert Neve, Pierson, Mich.

For Sale—500 Fine Yorkshire Grade Weaned Pigs each \$5.00. BROWN'S PIG FARM, Grand Rapids, Michigan.

Large Improved English Yorkshires. The hogs that make good. September gilts bred to farrow next August or September. Spring pigs, either sex. Pairs not akin. Satisfaction guaranteed. COLON C. LILLIE, Coopersville, Michigan.

THE SHORTAGE IN LIVE STOCK.

Trade in Live Stock and Meat Products During the First Six Months of 1910.

Commercial movements of live stock and meat products for the first half of 1910, as reported to the Bureau of Statistics of the Department of Commerce and Labor, to some extent reflect the shortage of the animal food supply in the country. While the June movements were in most cases heavier than for the earlier months, the record for the first half of the year, both in the domestic and foreign commerce, indicates a considerable shrinkage in the commercial supply of some of the prime necessities of life.

Live stock receipts during June at seven primary markets, 3,039,780 head, for the first time since January showed a gain and exceeded even the June, 1909, receipts of 2,052,824 head. Of the total 651,679 head were cattle; 101,400 head, calves; 1,582,692 head, hogs; 683,688 head, sheep; and 20,321 head, horses and mules. The June receipts of hogs, while decidedly higher than in either of the three preceding months, still continue much below the average for like periods in earlier years, while the cattle figures exceed the corresponding 1909 and 1908 totals. The shortage in the commercial supply of live stock is best seen from a comparison of the half-yearly figures, which totaled 16,463,756 head in 1910, compared with 19,081,725 head in 1909 and 20,820,393 head in 1908. The loss of over 2½ million head, as compared with 1909, is due almost entirely to the smaller number of hogs brought to market. Assuming that the average six-months' receipts for the last five years at the seven primary markets represent the normal commercial supply, the shortage in hog receipts thus far in 1910 is almost 25 per cent. However, the larger average weight of the animals reported for the present year offsets, to some extent, the loss in numbers. The distribution of this loss in hog receipts is far from uniform. Chicago shows a loss of 31 per cent, as compared with the above average; Kansas City, a loss of 26 per cent; Omaha, a loss of 20 per cent, and St. Louis a loss of only 5 per cent. The curtailment in the commercial supply of cattle is less pronounced, the six months' receipts for the present year being about 6 per cent below the average half-yearly receipts for the preceding five-year period. It should be stated, however, that the cattle figures for Omaha and St. Louis include the receipts of calves. Inasmuch as the six months' receipts of calves for the present year at the five markets which report them separately were over 22 per cent larger than the average six months' receipts for the preceding five-year period, it follows that the receipts of cattle at the seven leading markets were really lower than stated above, and the losses, as compared with earlier years, correspondingly larger. As compared with the above average, the receipts of sheep at the seven leading markets, 3,820,256 head, show a loss of over 11 per cent. It is noteworthy that the decline in the supply of sheep began after 1906, that of cattle after 1907, and that of hogs after 1908.

Live-stock receipts for June at the four principal Atlantic seacoast cities, 819,754 head, were larger than for any other month of the year, though falling short of the June, 1909 and 1908, totals of 865,570 and 920,236 head, respectively. The aggregate live-stock receipts at these four cities for the first half of the year, 3,865,200 head, likewise show a decided decline from the corresponding 1909 and 1908 figures of 4,457,080 and 4,805,695 head. Here also the largest loss is shown in receipts of hogs, while the number of calves marketed shows a substantial increase over the figures of earlier years. The six months' supply of hogs at the four seacoast markets, 1,693,304 head, fell about 20 per cent below the average six months' figures for the preceding five years. The largest receipts of hogs, as in the case of the principal interior markets, are shown for the first six months in 1908. The number of sheep handled at these four markets during the first half of the year 1,284,245 head, likewise indicate a continuous decline since 1906.

The shipments during June of packing-house products from Chicago, 176,820,550 lbs., show the largest monthly total for the year, though falling below the June, 1909 and 1908, shipments of 185,665,090 and 204,823,305 lbs. The six months' figures for 1910, 993,953,975 lbs., for the first time during the more recent period fell below one billion lbs., and were almost 20 per cent below six months' average for the preceding five years. The largest item of shipment for the six months, fresh beef,

416,288,600 lbs., showed a gain of over 50 million lbs. over the 1909 figures. As compared, however, with the average six months' shipments of this article during the preceding five years, a loss of over 13 per cent is shown. The shipments during the same period of cured meats, 294,423,400 lbs., show a loss of 20 per cent when compared with the average for the above period. The shipments of canned meats, 29,387,625 lbs. in the six months of 1910, have not yet regained the ground lost since 1906. The six months' shipments of lard, 125,739,800 lbs., show a loss of over 30 per cent when compared with the average for the six months' period of the five preceding years.

A decline of over 25 per cent is shown in the eastward movement from Chicago of provisions, which are stated as 446,493 tons for the first six months of 1910, as compared with an average of over 600,000 tons for the corresponding months of the preceding five years.

The export trade in live animals and meat products reflects the same downward tendency. Thus the foreign shipments of cattle, which as late as the fiscal year 1908 comprised 349,210 head, fell during the fiscal year just ended to 139,430 head. The quantity of fresh beef exported fell from 201,154,105 lbs. in 1908 to 75,729,666 lbs. in the fiscal year just ended. The quantities of hog products exported show even heavier decreases. Thus foreign shipments of bacon which comprised 241,189,929 lbs. in 1908 went down to 152,163,107 lbs. in 1910; hams and shoulders, 221,769,634 lbs. in 1908 to 146,885,385 lbs. in 1910; fresh, canned and pickled pork from 170,837,427 lbs. in 1908 to 45,113,899 lbs. in 1910, and lard from 603,413,770 lbs. in 1908 to 362,927,671 lbs. in 1910.

The stocks of meat at the end of June held in five principal stockyard centers, 197,870,860 lbs., show some increase since January of the present year, though compared with the five-year average for the same date, a decrease of over 36 per cent is shown.

MANAGEMENT OF FALL PIGS.

Many of the most successful breeders and feeders of swine are inclined to discourage the practice of breeding their sows to farrow two litters a year. In fact, some writers upon swine subjects assert that a man would be money ahead if he would kill every litter of pigs farrowed later than the forepart of September.

Both observation and experience have convinced me that the real profit from the fall litters depends fully as much upon the care and management of the young pigs as it does upon the time they are farrowed. Unless a man has comfortable houses and abundance of room to provide exercise for the fall pigs, he should not attempt to grow them. Personally, I feel sure that I can make as large profits from a limited number of fall pigs as I can from the litters farrowed in the spring, but I find that it seldom pays to winter more fall pigs than I have sufficient room to house and accommodate conveniently.

The fall pig crop is easier to handle and the pigs possess more vitality and strength than the litters that are farrowed in the spring when the sows have been without exercise during the time they were pregnant. Then again, the sow's ration of pasture and forage crops during the summer is better adapted to the development of the unborn pigs than the winter rations that are fed by the average swine breeder and feeder.

The sow that has been allowed the run of a good pasture during the summer is usually in ideal condition to produce good, vigorous pigs in the fall. The succulent feed and outdoor exercise have put her system in excellent condition for the farrowing period and suckling her pigs.

The class of feeds for the sow and her pigs is better adapted to their needs than the feeds that are available during the early spring. The second growth of clover, the soft corn, the waste vegetables and fruit can all be utilized at a profit and will be relished by the sow and her litter and give the young pigs an excellent start in life before the cold weather arrives.

If winter dairying is being practiced the skim-milk may be profitably utilized by the young pigs and it will give them a start in life that cannot be equaled with any other variety of food afforded by the farm. Fall pigs that are given an abundance of palatable food and sufficient exercise during the winter will be in excellent condition to make the most profitable use of pasture and forage crops the

next summer and can be made to attain heavy weights the following fall. I know that many successful hog feeders will claim that this line of feeding is not profitable, but when we plan our management so that much of the growth is produced by the waste, forage and odds

ends of farm feeds I am sure that the pigs that are marketed during the fall at a weight of from 300 to 400 pounds can be made fully as profitable as the spring pigs that are marketed at the same time weighing from 175 to 225 pounds. It is no uncommon occurrence for a car load of heavy weight hogs to top the market, even though the tendency of the market is toward the lighter hog.

Pigs should have good dry sleeping places and plenty of clean straw or litter. A covering over the nests will prevent the cold air from above coming down on them and causing them to shiver and pile up. I prefer to have the cover about four feet from the floor over the pigs during the winter. Too much straw and litter is not always best as the pigs will come out steaming and catch cold. The nests should be on an elevated place where there will be no accumulation of dampness, for pigs that are compelled to sleep in damp nests seldom make good gains.

In feeding during the winter, care must be exercised to feed only such a quantity of food as will be readily eaten. Avoid allowing old feed to accumulate in the troughs and freeze, for that will be sure to put the pigs off their feed. Feed only palatable foods, and when possible provide some kind of vegetables or roots for succulence.

Sows that are allowed to raise two litters a year are easier to handle and are more certain to continue regular and reliable breeders. I have found it very difficult to get my sows with pig when they were bred for but one litter a year.

New York. W. MILTON KELLY.

LIVE STOCK NOTES.

The Minnesota Experiment Station advises farmers to make conditions sanitary about the premises where hogs are kept, which will aid in preventing outbreaks of hog cholera. If possible, prevent sickness from attacking them, giving the hogs plenty of clean pasture, where disease has not infected the soil, and provide clean, wholesome food. Scald, disinfect and clean the troughs and swill barrels frequently, and never compel hogs to lie in their own filth. Clean quarters, clean food, clean water and clean air are the best preventives against cholera.

Kansas, Nebraska, Montana, Wyoming, North Dakota, South Dakota and Colorado are all short on feed, with hay crops nearly 50 per cent below normal, and great numbers of cattle must be thrown on the market for lack of feed and water. This being the case, eastern feeders are expected to take the surplus off the market. Should they neglect this opportunity, the packers would buy up these cattle for the next month or longer, using them for canning purposes largely and thereby bringing about a shortage in the supply of desirable feeding stock for another year or more.

Eastern stockmen to an increased extent, have been interesting themselves in the great bargains offered in the line of stock steers at the Chicago stock yards, and there has been quite a lively traffic recently in such, some buyers purchasing western range thin cattle, while more took to thin natives. The spread in prices for stockers and feeders is very wide, and the relative cheapness of stockers tends to make them especially popular. They have been selling anywhere from \$3@4.75 per 100 lbs., with attractive steers weighing 500 to 650 lbs. going at \$3.40@4.

T. J. Spencer and W. B. Ownby, successful farmers and stock feeders of Pike county, Illinois, who were contributors to the Chicago cattle supply recently, report that pastures are very lightly stocked with cattle in that section and the supply of fed cattle is almost exhausted. They know of one load of dry-fed cattle in their locality, with a small scattering of hogs, the hog supply being considerably below normal. The pig "cron" is short, many pigs having died during the spring. From eight sows Mr. Spencer had but forty pigs and he believes that is as large an average as other farmers around there had. He says that about two years ago he began to realize that he had been farming his land to death, and at once began to busy himself in an effort to restore to the land some of the fertility that had been gradually sapped from it through years of exclusive grain farming. Since then he has never been without a bunch of cattle or hogs longer than a few months at a time, and he has found that it pays well to devote to pasture a large share of the farm. The land has become much richer by means of the rest cure and the droppings of the cattle, and by feeding his grain and buying the needed additional supply with which to fatten his stock, he has increased the size of his bank account much more rapidly than by his former method of selling grain at its market value. Mr. Spencer says other farmers in his section have within the last few years taken up cattle feeding, and that part of the country is full of beginners in stock feeding, all having profited materially.

Remedies Are Needed



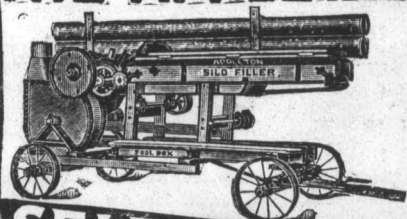
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DETROIT, AUGUST 20, 1910.

CURRENT COMMENT.

In a recent communication a Michigan Farmer reader asks for an explanation of the difference between old line life insurance and fraternal life insurance. He has noticed that the business men all carry old line policies and that the farmers take the fraternal insurance. He also comments on farmers being generally considered to be poor business men, wonders if they are making a mistake in this most important investment and asks what we would consider an ideal policy for a farmer to carry.

These questions open up for consideration the whole life insurance problem, which is a subject well worthy of the careful consideration of every Michigan Farmer reader. Life insurance is a growth of our modern civilization and good business men are almost a unit in the opinion that it is not only good business sense, but really an obligation and duty to their families to protect them from possible future hardships by carrying life insurance policies proportionate to their style or scale of living and the business loss which would result to their estates from their sudden or unexpected demise. Still others with ready money for which they have no special use buy life insurance as an investment, but this may be considered apart from the primary consideration which is raised by the above communication, since the protective feature of life insurance is the one which will appeal most strongly to the average man.

The essential difference between fraternal insurance and old line insurance, so called, is that the former is a mutual organization for the payment of death benefits to its members, the members being assessed for this purpose as often as the mortality among the membership makes such assessments necessary, the amount of the individual assessments being fixed according to the age of the member when he joins. In these organizations the expenses of administration are ordinarily provided for by a special tax on the members, while the local organization through which the assessments are made is maintained in a similar manner. Thus it will be seen that the cost of fraternal insurance is a varying and uncertain factor.

If the membership averages young in years the rate of mortality will, under normal conditions, be low, and the cost of protection correspondingly cheap to the members. During their periods of greatest development the membership of fraternal organizations of this kind is apt to average very low in years, since they are popular among the younger people and they can join them at a comparatively small expense on account of the cheap rate to which their years entitle them. But unless the average age of the membership can be kept down, as it obviously cannot, the yearly cost of fraternal insurance is bound to increase with the age of the organization, since the assessments will become more numerous as the years go by. Unless such an organization can keep on taking in young members indefinitely, the cost will, in time, become ruinously high and the organization will be superseded in the popular favor of the younger generation by the younger orders of the kind which have the immense advantage of a younger average membership.

On the other hand the old line policies, so called, are based on a scientific study and compilation of statistics relating to the average life of healthy men of any given age, the rates charged being based on these experience tables, so called, with such additional fees as experience in the conduct of this kind of business on a large scale has shown are necessary for the administration of the business. Thus it will be seen that while the yearly cost of such a policy is higher at the beginning than that of a policy of similar amount in a fraternal insurance organization having a comparatively low average age of membership, yet it is based on actual experience regarding the hazard of the risk and the rate is constant to the end, whenever that end may come. Since the hazard is less with the young man than with the same man at a more advanced age, this difference in risk has been computed to a nicety from the experience tables above referred to and as the years go by a policy of this kind has an annually increasing cash value for which it may be turned in to the insuring company in consideration of its cancellation and the consequent termination of the risk. It also has a definite loan value, to which amount it will be accepted as collateral by the insuring company. Thus in taking out a straight life policy in an old line company the purchaser knows just what he is getting, just what it is going to cost him for the protection for life or for any given period. In other words, it is a stable investment, with no fluctuation in the market. On the other hand, the fraternal insurance policy, while it affords cheap temporary protection, which makes it seem attractive to the class of people who take it, lacks that element of stability and permanency which appeals to the business man and which is undoubtedly the reason that most business men take old line insurance.

The question regarding the ideal insurance policy for the farmer to carry is one not so easily answered. Naturally, a great variety of policies are offered to meet the requirements of men differently situated and with different ideas regarding the use of insurance policies as a means of investment. It is probable, however, that more good business men buy straight life policies than any of the other numerous kinds offered. But the circumstances in which the purchaser of a policy finds himself, and his own good judgment, should decide him in this regard, rather than the advice of any person not conversant with those circumstances and conditions, or the solicitation of the skillful agent. The same should hold true with regard to the size of the policies taken. But it is unfortunately true that the average man does not give the consideration which he ought to this matter until it is brought to his attention, and if he will not emulate his business contemporaries by providing a reasonable protection to his family, as may be needed, it is well that his attention be attracted to the importance of this step by the zealous solicitor.

To the great mass of American farmers, who have been busily engaged in producing the foodstuffs to feed the people of the country, and a goodly amount for export, have given little thought to the problems of distribution. But the distribution of foodstuffs is an important economic problem, and the time is at hand when our farmers must make its solution their business if the economic balance of the country is to be maintained and the American farmer is to enjoy a just compensation as a re-

ward for his labor. Already the public rebels against the high cost of living, and the farmers of the country are envied the measure of prosperity which they have attained, but which is still too meager to put their business on a par with other industries in the making of a fair profit on the capital invested. In an article recently published in the Saturday Evening Post, Mr. B. F. Yoakum, a prominent official of one of the great railroad systems of the country, emphasized this point by giving figures to show that the average per capita income of the farm population of the United States is approximately \$314. From this sum, which represented the average gross income for each member of a farm family last year, there must be figured the proportionate contribution of each for taxes, labor, repairs and other incidental expenses in the upkeep of a farm, thus reducing materially the average net income or the amount available for clothing, feeding, educating and otherwise providing for each member of the average farm family. The presentation of this information in such a manner should go far toward disabusing the mind of the average consumer that the farmer is getting more than his share. He is not getting more than his share. He is not getting his full share. Too large a proportion of the price paid by the consumer is absorbed in the avenue of distribution. In the article above referred to Mr. Yoakum presented figures which were compiled after a careful investigation to show that in the handling of eight commodities representing approximately five-eighths of the annual food bill of the city of New York, the expenses and profits of the middlemen, exclusive of freight paid on the commodities, amounted to over 60 per cent of the sum received for the same commodities by the producers. Naturally a large part of this expense was incurred in the expensive methods of distribution, and Mr. Yoakum pointed out that if these products amounting to 600 car loads per day could be economically distributed to a large number of public markets distributed throughout the city, allowing 20 per cent for handling, the people of New York might be saved the sum of \$150,000,000 annually, or \$410,000 per day.

These figures, relating to this problem from a railroad man's point of view, are here presented by way of illustrating the great gap in dollars and cents which lies between the producer and the consumer. The producer and consumer can not be brought closer together in this respect without both benefiting thereby. Naturally the producer would get more for his products under such an ideal arrangement and the consumer would get these necessities at a lower cost. But the transition from present day conditions to ideal conditions of this kind can not be accomplished by a single step. The farmers of the country can not eliminate the leaks in distribution altogether or at once by any method open to them, any more than the consumers can all secure their supplies direct from the farm under present conditions. But this change can be accomplished gradually and in a natural way by the co-operative organization of farmers all over the country along lines of community production for the packing, shipping and marketing of their special cash crops. The experience of the farmers of some of the old-world countries proves this. The experience of the fruit farmers of the west proves the same thing, and the experience of the farmers of the central and middle west wherever organized along similar lines points in the same direction. The fruit farmers of the pacific coast who are thoroughly organized in a co-operative way are already selling their product through their own official representatives at many of the large market centers of the country. The grain growers of the middle west who sell their product through co-operative elevators are already agitating the question of constructing elevators at terminal points. These changes in methods of distribution are slow, but they are being gradually accomplished by the natural growth and extension of the co-operative principle by the producers of the country. Slowly but surely the time is approaching when the farmers of the country will have added the business of distribution to the industry of production. In this development they must take the initiative. The government could be of no small help to them in various ways, but the government, like providence, helps those who help themselves. Hence the necessity of doing what "lies nearest to our hand" to hasten the day when this more ideal condition will be realized. That this is not something distant or foreign to us and our community, but can be

found right at home in the local organization along community lines as above noted is the first important lesson for us to learn.

HAPPENINGS OF THE WEEK.

Foreign.

Fire started in the Belgian exhibit at the Brussels exposition Sunday evening and rapidly spread to other displays until a large part of the fair was wiped out. There were a hundred thousand people on the grounds at the time, but troops handled the crowd so well that but two were killed and not many hurt in the stampede which followed the fire. Forty adjoining houses were burned. The accident is believed to have been caused by fireworks. It is probable that the exposition will not be reopened. Many art treasures that cannot be replaced were lost in the fire.

What amounts to a real conquest of Palestine is being carefully conducted from Germany by colonization. Over a half century ago families from the fatherland began going to the "Holy land" and buying locations upon which they built homes. Others followed, until now there are thousands of Germans among the population. It is now understood that the Kaiser is concerned in syndicates for promoting German trade and interests there.

A pirate ship has been preying upon traffic along the northern coast of Mexico. Several small craft have fallen into the hands of the outlaws. The Mexican government has sent a warship to the scene with orders to capture the boat and crew.

A new record for short distance in starting an aeroplane was established in England when C. Graham-White succeeded in raising his machine in going 25 feet nine inches. The former record was held by Foulis who started in going 60 feet.

It is announced that Maybelle Gilman Corey, wife of the president of the steel trust will again go on the stage. She will appear in London next year in "The Taming of the Shrew."

Thirty-seven dead and fourteen wounded have been taken from the wreck of the Bordeaux excursion train which crashed into a freight train at Saujon, France. Six cars of the excursion train were telescoped. The accident was caused by a misplaced switch.

President Taft hopes to visit the Philippine Islands during his present administration.

The Bonilla revolution in Honduras has proved a failure, the leader and his few followers escaping across the line into Guatemala to avoid being captured by the Honduran troops.

For the first time in the history of the little republic of Switzerland, a foreign chief visited the capital city on official business Monday when the president of France, with members of the ministry, made a call upon President Comtesse.

The American squadron, including the battleships Charleston and New Orleans, is now at Yokohama, Japan. The cruisers have visited Korea where many of the officers have been entertained by the consulate.

United States Senator Elihu Root is in Paris. He has been at the Hague adjusting matters concerning the Newfoundland fishery disputes.

The number of casualties by the flood at Tokio last week is now placed at 1,112 dead and missing. There were 3,953 houses destroyed. Many people are homeless and are dependent upon the public for food and shelter.

National.

Troops have been ordered to Washington state to assist in fighting the fires which have been devastating large sections of the state. Scattering fires in Yellowstone Park were also reported but they have been gotten well under control.

A congress of representatives of national fraternity organizations is in session in Detroit this week endeavoring to formulate a scheme of fraternal insurance that will obviate the faults of present day insurance policies of the many orders offering them.

Earthquake disturbances were noted by the seismograph at Nova Scotia on Monday, but no damage was done.

Five prisoners saved their way from the jail at Henderson, Ky., last Sunday night and escaped.

Telegraph companies have sent out notices canceling their franks, beginning with August 17. The move was necessary on account of a ruling of the interstate commerce commission.

Announcement is made that the 21st reunion of confederate soldiers will be held at Little Rock, Ark., May 16-17-18, of next year.

Eleven persons were injured in a head-on collision on the Gorge route at Niagara Falls Monday. The accident happened just above the Whirlpool Rapids.

At the opening of the fall term of the United States supreme court the Indian cases will first be taken up. The issues bear upon the relation of the United States to its wards and the right of the country to control individual lands of the natives.

On Tuesday of next week a spirited campaign for nominations will close with the primaries in Nebraska. In both parties there is a division over the liquor question.

It may become necessary for troops to again be called out to restore order in Columbus, Ohio. Rioting has been resumed by the strikers and the strike breakers.

Last Tuesday while on board an Atlantic steamer, Mayor Gaynor of New York city, was shot by a former city employe who had been discharged. The shots were not fatal and the mayor stands a good chance to recover. The assailant was captured.

Detroit has been selected as the place for building the trolleyless cars for electric lines, the invention of Mr. Edison. It is believed that the new car will revolutionize trolley traffic.

Magazine Section

LITERATURE
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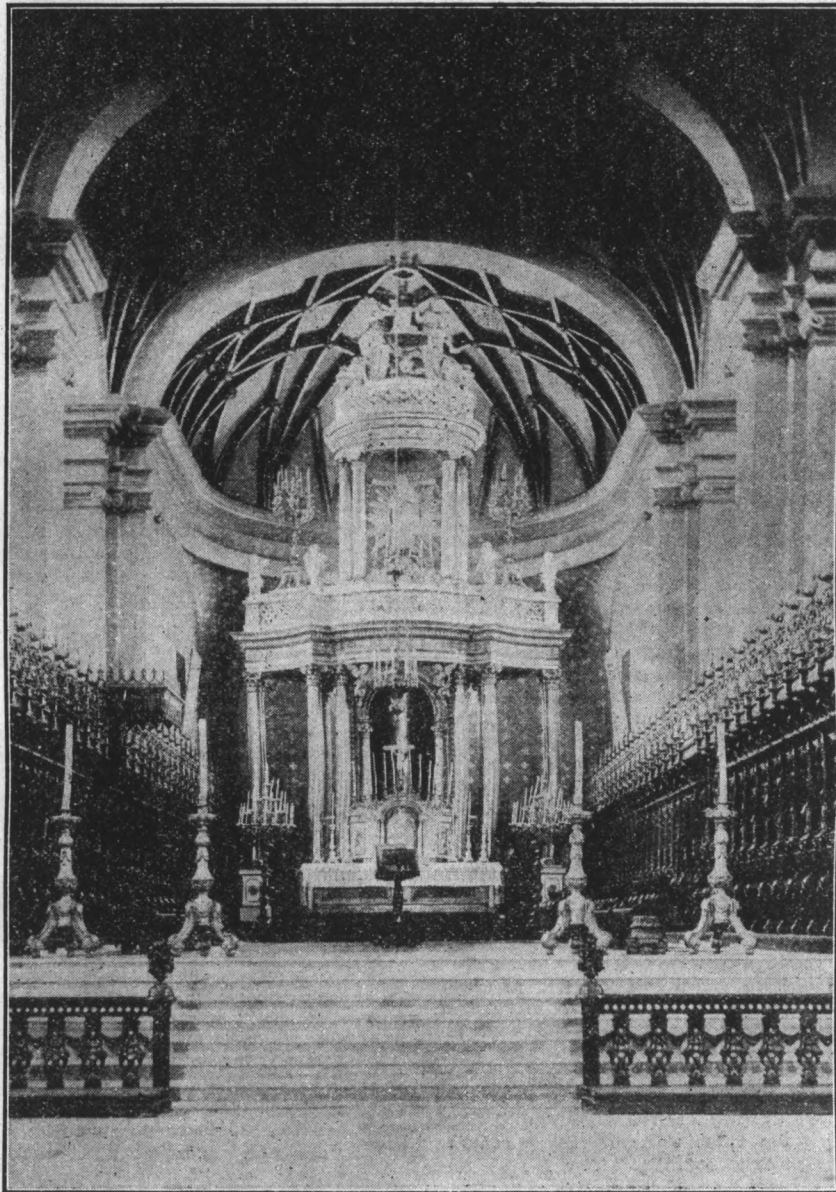
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Tobogganing Down the Andes-II—By Wm. V. Alford.

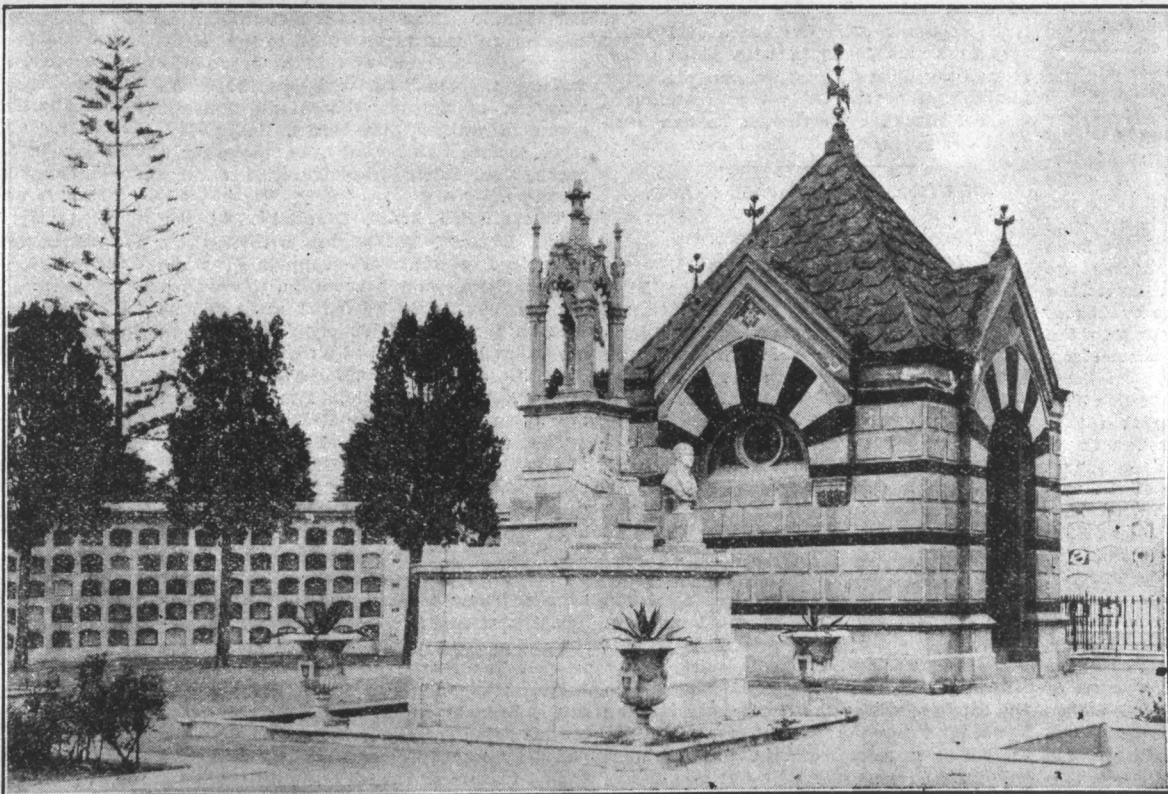
OUR first night was spent at Casapalca, down from the summit only twenty-five kilometers. As a cold, drizzling rain set in only the bare outline of the bare, adobe buildings could be seen as cloud chased cloud up the canyon. The next morning we were held until nine o'clock awaiting orders and as the sun was shining brightly my opportunity for photos was good and was well improved. Just before noon we reached Rio Blanco, a mining town. As all the employees are Americans we were royally entertained at lunch. A large copper smelter is being built here.

After lunch, as we could hear two freight trains puffing up the canyon below, I left our little Pullman to follow, and taking the camera we walked down the track for six kilometers. In less than five minutes I crossed a long steel bridge spanning a stream that was as white as snow with foam. From the bridge the track follows the bank close under a wall of vertical rock, then swings around a rocky point onto a trestle six or seven hundred feet in length that spans another canyon. The bridge heads straight for another vertical wall fully 500 feet high. There is but one escape, simply to bore a hole for a thousand feet into the granite. Passing through this hole into the light on the other side I found another vertical wall of granite on one side and a sheer drop of four or five hundred feet on the other side and, not a stone's throw ahead, the black mouth of another tunnel. Walking on through this tunnel I came out onto another steel bridge with the last tie on the bridge meeting the first tie in the mouth of another tunnel. Here I stopped and, looking up against 2,000 feet of solid granite and down into the roaring torrent below, admired both nature and the American engineers whose skill and daring planned and executed this work. Surely he was the offspring of a race that knows no master but the Infinite.

This spot is given on maps of the Peruvian Central as "Infinillo," which expresses in the Spanish tongue, "Little Hell," and the expression is not far wrong. There is such a sameness to the canyon, bare of every vestige of vegetation, that we will let the car spin down the 4½ per cent grade to the Verrugas bridge. The deep gorge is now spanned by a new steel structure. A portion of the wreckage of the old bridge is in the bottom of the river below, but the interest that centers in this spot is not in either the old or the new bridge but in the number of lives lost in their construction. Here nature came near upsetting the plans of man by erecting an invisible wall more formidable than the granite of the Andean range. There is a strip of land nearly 500 miles long and about 30 miles wide paralleling the Pacific coast and approximately 40 miles inland that contains a secret poison. When the earth is stirred up this poison escapes and both the native and "gringo" are its victims. The poison produces what is known locally as "fiebre de Verrugas." The first symptoms are chills, pains in the back and a high fever. This is followed by sores like great bloody boils breaking out



The Magnificent Altar in the Cathedral at Lima, Peru.



In the Exposition Grounds at the Peruvian Capital.

all over the body. The victim is more loathsome than a leper. The best doctors from Europe and America have visited the spot but have gone home no wiser than they came. There is a cure for it, it is said, but it grows on the Atlantic side nearly 100 miles from the place where it is needed. The herb is known as quishua. A tea made from the leaves, if drank copiously when the first symptoms appear, will generally give relief. This plague, as it may be called, caused the death of one person for every \$500 spent on the construction of the road across this strip of tainted territory, and at the bridge over 300 workmen died. It was the Monkey Hill of the Peruvian Central Railroad, but unlike the real Monkey Hill of the Isthmus its history is almost forgotten as there are no ill effects in passing over this strip of bare rocks and red clay unless the ground is stirred up, liberating the poison.

Leaving the Verrugas bridge there is little of interest except the fact that a lower elevation is noticeable on every hand. Great giant cacti are trying to cover the ugly face of some old stone, or, if in blossom, give the traveler a pure white flower to look upon. At four in the evening we reached Matanaca and after a bath and an early dinner we started out to view the town. 'Twas the same old picture that we have seen a thousand times from the Amazon to the Rio Grande, namely, a plaza with an old and dilapidated excuse of a fountain in the center, a church on one side and on the other side dingy shops.

As we near the Pacific the grade becomes less and our car runs more slowly. It offers an opportunity to review briefly the history of the railroad, an enterprise that cost the Peruvian government forty millions of dollars, gold. Many of the older readers of The Farmer will remember that in the early seventies Peru was shipping to the States and Europe thousands of tons of Peruvian guano for fertilizer. The revenue was a princely sum and, as she thought the beds of a rich fertilizer inexhaustible, money for home improvements was offered in a golden stream. At this time Meggs, an American citizen of Irish-Catholic parentage, endowed with all the insinuating power of a

born diplomat and of the same faith as the government of Peru, had no trouble in projecting railroads that were to cover the remotest parts of the country. However, only the Peruvian Central was built. We are told by old-timers who came down with Meggs, and are still in the employ of the road, that the wanton waste of money exceeded that of the French at Panama when DeLesseps was at his zenith. It is said that friendly tips of twenty-five to fifty thousand dollars to personal friends, and nightly orgies, used more money than the building of the road. As the government and church were his personal friends there was no halt in the golden stream that flowed into his pockets. This friendship is attested by one single fact. At his funeral a thousand priests followed him to the grave. It tells on a gigantic scale the story that is as old as man. A debt was saddled on Peru that will not be liquidated for many long

years, and as the Anglo-Saxon holds the notes and stocks of the Peruvian Central the accruing interest and dividends "look good to him," and as he is in charge of the road no haste is being manifested in closing up the account.

Whatever may be said of Meggs and his company the real work of locating the road and its construction is, as far as we can learn, free from any taint of dishonesty. In itself it was a stupendous piece of work. There were no precedents to follow for the avoidance of mistakes. First, the engineer crossed a desert waste, then he was confronted by a granite wall that reached into the clouds far above the snow line. It must be remembered that when this work was started modern machinery was in its cradle. The work was done with wheelbarrow and hand-drill.

The location follows up a tortuous canyon whose ascent exceeds the maximum grade allowed. To overcome this the projected line turned up lateral canyons, switchbacked out, bored holes through granite walls, followed vertical walls until the grade line ran into the ground, then doubled on itself, creeping along the side of the mountain until another switchback turned it around and up it started again with tunnels where it was impossible to round the projecting walls that dropped vertically to the seething waters below. On the original location there were 63 tunnels in that many miles. Six have been cut out, leaving 57 as monuments to the skill and perseverance of the American engineer. The road was finally completed to Aroya in 1893 after 20 years of digging, hammering and blasting of solid rock. It stands today without a rival in the world for pure determination in overcoming the obstacles that nature put in its path, and in its scenic beauty. As the traveler looks out of the window of the coach onto the precipitous steep slopes of the sierra, with its splintered sides of porphyry and granite, its peaks far above the Matterhorn of the Alps, then down into the darkness of fathomless canyons, his admiration is unbounded. But in all probability he becomes drowsy, affected by sorroche, a disease caused by the rarefaction of the air at great altitudes, and all interest in his surroundings is lost.

In the shade of the afternoon, Lima, six miles from the Pacific, was reached. We are soon well housed at the hotel, and going into the large and spacious dining-room, flanked on all sides with great French-plate mirrors reaching from floor to ceiling, we are seated at a small table banked with roses and ferns. A French waiter in immaculate dress serves us with the delicacies of the tropics. What a change from our camp fare and the ice and snow on top of the Andes! Today Lima is a city of 140,000, and one of the finest of South American capitals. It was founded by Pizarro in January, 1535, just 375 years ago. The Lima of today with its history is a volume in itself. We shall only skim the surface, spending a pleasant hour in the Exposition Grounds, crossing over to the cemetery and looking at the acres where the dead are buried, then visiting the Cathedral.

A car takes us to the upper end of the Paseo Colon, the main entrance of the Exposition. Passing in and following the broad gravel walk, flanked on one side by the white walls of the main building, and on the other by flowers and ferns and a row of stately royal palms, we soon reach the central portion of the grounds. This spot is like a magnificent cluster of diamonds set in a golden band. A circle some 300 feet in diameter is the hub. Around the outside of this hub is a row of royal palms, the most beautiful we have seen in any city, or capital across the torrid belt, from Mexico south. From the gravel walk, radiating like the spokes of a wheel, are broad paths leading to the Exposition buildings, or losing themselves, as it were, in a jungle of tropical flora. Beautiful tree ferns ten and twelve feet high, begonias with leaves so thin that one can read a newspaper through them, and the coloring as delicate as a sunset in the tropics, roses and lilies of the valley growing beneath palms whose long slender leaves shimmer in the rays of the afternoon sun, are all there in abundance.

We walk along one side of the grounds and are soon entertained by a cage of monkeys, a real Bengal tiger, a lion, a black bear, and a half dozen wild hogs. Farther on we stop before a cage of condors, and last but not least, a cage of snakes, not the little striped ones that are found in the fields of Michigan, but snakes, big ones that can swallow a doe and for dessert make way with a whole litter of pigs. Unfortunately, the Exposition buildings were closed and we were

unable to see what they contained. We understand, however, that it is a local exhibit for the benefit of Lima merchants, similar to the Pittsburgh Exposition or the Fall Festival at Cincinnati. Could any one of our northern cities have a plot of ground with the same natural facilities it would be one of the beauty spots of earth, beside which Eden would be a rubbish heap.

The cemeteries of Latin America are, in our judgment, nearer the ideal than the cemeteries of the States. The cemetery of Lima is a beautiful spot. As old as the city, it has grown day by day, and at the present time covers fully 50 acres. Its great size can hardly be realized because the view is shut off by short walls radiating from the center or paralleling each other for 100 feet or more. Winding in and out among these walls are gravel paths, flanked by beautiful vaults belonging to the rich and well-to-do. Almost every variety of flower and shrub lends natural beauty to the marble tombs. The walls that are the receptacle for the dead of the common people are about twelve feet high and fourteen feet thick. These walls are divided into two parts by a vertical partition wall running through the center lengthwise. Each half is a series of pigeon holes, one above another, just large enough to admit a coffin. There are usually nine opening vertically. A marble slab is placed over the opening and sealed. On this slab the name and date and possibly a beautiful design are carved—a tombstone for the dead in a grave dry and warm, free from water and insects. Surely, it is more human than a grave in the cold, wet ground.

Returning to the city we visit the Cathedral which faces the Plaza. It is of the same general architecture as all Spanish churches in Central or South America. The interior is beautiful and, in its semi-darkness, solemn. The central aisle is fully 60 feet wide and 300 feet long, fronted by a magnificent altar. Golden columns six and ten inches in diameter and fifteen feet high support the top. Around the outer edge of this canopy are solid silver cherubs, life-size. Saints almost without number and name, in silver and gold, ornament the altar. There is a king's ransom in gold and silver on the altar and pulpit. On either side of the altar there are two rows of beautifully carved chairs in solid mahogany for the priest during the service conducted by the bishop. The candlesticks higher than a man's head are of gold. Marble steps lead up to the altar and the floor is covered with rugs from the Orient. On each side of the central aisle there is another aisle fully 40 feet wide. On the huge columns separating the central portion of the church from the outside aisles are fine old paintings from the brush of masters. Several of the paintings hanging on the wall are twenty feet long by twelve feet wide, hung in deep gold-leaf frames. The paintings of the twelve apostles are works of art costing each a thousand dollars. Along the outer walls of the church are deep recesses separated from the body of the church by latticed doors. There are six or eight of these rooms on each side and in each one there is an altar or image of some saint. In one room near the front of the church the bones of Pizarro rest in a marble coffin with glass sides. It was my wish of long standing to get a photograph of the little that remains of the old rascal, even though he has been dead 360 years, and in this I succeeded.

GETTING MRS. PARKS HOME.

BY HILDA RICHMOND.

(Concluded from last week.)

"Surely we are repaid for the little trouble we have had," said Mrs. Gatch, wiping her streaming eyes, as her husband carried in the thin form of little Mrs. Parks and laid it on the bed in her mother's room. It was impossible for them not to witness the meeting, for they had to help get the poor woman settled comfortably, as well as assist the invalid mother to her side.

"Repaid? I should think so!" sobbed Hannah. "Did you ever see anything so touching?"

"Mamma, I'm going to get well now," said the sick woman. "I knew all the time I would get well if I could only get back to your bed. These dear friends have been so kind to me."

Mrs. Gatch and Hannah slipped out to the kitchen, where the doctor was heating some milk for the patient, and together they had a rejoicing that the trip had ended so successfully. "I tell you I was pretty blue last night," admitted Hannah, "and pretty angry at those mean folks,

but it turned out all right. I never slept better in my life than on that hay bed last night, and weren't those people nice to us? I'll not go back on the country yet."

"Neither will I, though I wouldn't have said that at seven o'clock last night. I think I'll stop and give that woman at the farm house a piece of my mind tomorrow for turning away a sick woman with that storm coming on. Such people need a lesson," said the doctor.

"You folks did a lot for my Mamie, and I'll never forget you," said Mrs. Parks' father coming into the kitchen. "We're poor, but we love our daughter, and it nearly broke ma's heart and mine that we couldn't go to see her. I thank you all ever and ever so much for bringing her here, and I only wish I could do something for you all."

Dr. Gatch hurried in with the stimulating milk and had the satisfaction of seeing Mrs. Parks drink it eagerly. "You are all right now, aren't you?" he said soothingly. "You are going to get well very soon."

Mrs. Parks looked at her smiling mother, at her three little ones perched on the foot of the bed blissfully eating some of Mrs. Roswell's good cookies, and then at her father hovering anxiously near. "I would be if I just had Jim," she sighed. "I wish Jim had come along!"

Dr. Gatch retreated to the kitchen with such a look of dismay on his face that both ladies exclaimed sharply, "What in the world is the matter?"

"She wants Jim," he said weakly, sinking into a chair. "We'll have to go back after him."

In spite of the tragedy in his tones they laughed till the tears ran down their sunburned cheeks. Of course they made no noise with their mirth, but the situation was so comical that they could not hold in. No thought of such an outcome to their trip had ever entered their heads, and they treated his declaration that they would have to make another trip across the country with Mr. Parks as a sort of joke.

"We can't stay here all night," said Mrs. Gatch. "Mrs. Parks' aunt will be here right after dinner to look after the children and everything, so let's start home. Maybe we can get back to those people in the barn without overdriving the horses. I'm anxious to get back home."

"I want Jim! Why did I ever leave him?" wailed the voice in the next room.

"I want papa! I want papa!" howled the infants in sympathy, and though Dr. Gatch and the ladies hurried in to quiet the wailing they could do nothing.

"Mamie, do use a little judgment," pleaded her father. "Don't you see you are getting you ma all excited and nervous. Children! Hush! You must be quiet!"

"Mrs. Parks, if you'll promise to keep perfectly quiet, I'll go and get your husband," said Dr. Gatch, breaking into the tumult. "And if there is anything or anybody else you want, please tell me before I get started." The sarcasm in his voice was lost on the weeping woman, who had retired into her handkerchief apparently to stay. Hannah was handing her bright silver pieces and unlimited cookies in the hope of restoring order among the infants, and Mrs. Gatch was fanning the old lady, who was indeed all wrought up by her daughter's distress, when in walked Jim Parks, dusty, forlorn, footsore and weary, but wearing a smile that fairly transfigured his dirty features.

"Bless your heart, Mamie! Did you think I could get along without you, honey! I was awful disappointed when I saw there wasn't room in the wagon for me, but I just hoofed it after you as fast as I could. Don't cry!" He fell on his knees beside the bed as he talked, and drew Mrs. Parks' thin face to his shoulder. "Don't cry, dearie! You're all right now!"

The trip home was begun at once. "Let's hurry for fear Mrs. Parks will think of something else," said the doctor nervously. "There is no telling what may happen if we stay."

"If anyone had told me we could have so many adventures in going forty miles over a lonely road, I wouldn't have believed a word of it," said Hannah, shaking the cookie crumbs off her dress. "But now it is all over and we will soon be home. We can get to our friendly people in the barn by night, and early tomorrow morning we'll start for home. The horses will be all right, now that the rain has cooled the air and settled the dust."

"I won't say our adventures are over until we get home," said the doctor dark-

ly. "I feel it in my bones that something will happen."

The family in the new barn welcomed them at dusk, and a most delightful evening was spent with them before the hay beds were made up. It seemed rather odd to have a piano in front of the cow stalls, and a kitchen off safe from the hay in the tool department, but with songs and stories and merry conversation the evening was spent very pleasantly. Only a few things had been saved from the recent fire, but the whole family regarded living in the barn as a sort of lark, and were in no hurry to get into a civilized home, as they expressed it.

"Hey! Neighbors! Hey! Hello! Hello!" In the faint gray dawn the family and their guests were aroused by a fearful pounding on the barn doors, and when they stumbled sleepily out they found an excited man there who showed signs of a hasty toilet. "I'm sorry to disturb you," he said hastily, "but wife's sister who is visiting us took sick very suddenly an hour ago and we want some of you folks to go for a doctor. That storm last night played the mischief with the telephones and we can't get central. Tell him to come as quick as he can, Howard!" he said, turning to the young man of the family who was already grabbing a saddle from a peg in the harness room. "She's awful bad!"

"I'll go," said Dr. Gatch, feeling in the dark wagon for his medicine case. "I'm a doctor, and maybe I can do something."

"Sure enough!" said the host, remembering his guest's errand and the sick woman they had sheltered. "Howard! Howard! You don't need to go!" But the young man had strapped on the saddle and was hurrying down the road as fast as the horse could go.

Without waiting for a lantern they hurried down the road as fast as they could, arriving at the farm house out of breath and muddy from splashing into the little pools along the road in the dark. Dr. Gatch caught a glimpse of himself in the dresser mirror, as he entered the sick room, and he wondered even in that excited moment what his patient would think. His hair was uncombed, his coat sleeve was torn almost the entire length from contact with a nail in the barn, his collar had been left behind, and a four days' growth of beard did not add to his beauty. He did not hesitate, however, but diligently applied himself to relieve the sufferings of the groaning woman on the bed.

"An attack of acute indigestion," he said quietly. "You probably have been eating something that disagreed with you in this hot weather."

After some hours of hard and faithful work the patient was relieved, and the family rejoiced to know their relative was out of danger. When the family physician arrived Dr. Gatch quietly told him what he had done, and prepared to go back to the barn for breakfast, though the lady of the house insisted he must stay with them.

"Young man, you got here just at the right time and did the right thing," said the old doctor, following Dr. Gatch out of the sick room. "The patient is all right now, but you saved her life by your prompt action. I shall tell her so when she is better."

"Doctor, I'm still worried about Marie," said the mistress of the farm house hurrying into the sitting room from the sick chamber. "Her mind seems to wander. She insists that she has seen this new doctor somewhere, and acts so strange."

"That is odd," said the old doctor in a puzzled way. "I never knew indigestion to affect one's mind. Did you give her any quieting drug?"

"Nothing of that sort," said Dr. Gatch. "She has seen me before. She passed us on the road a day or two ago in an automobile."

"She certainly wouldn't recognize you from a passing glance like that. Come into her room and tell her, so she will quiet down and get to sleep, won't you?"

"Doctor, your face looks so familiar, and I can't get you out of my mind," said the sick woman. "Where have I met you?"

"Do you remember the long black wagon which you and a party of your friends got out of your machine to inspect on Tuesday about noon?" said Dr. Gatch. "Well, I'm the man with the vicious look." He turned to the bewildered relatives of the patient with a queer look in his eyes to explain. "My wife and a young lady and myself were taking a sick woman to Oak Grove to her mother; there is no railroad to the place, you know, and this lady and a party of friends passed us in an

(Continued on page 134).

PORTULACA.

BY MRS. M. B. RANDOLPH.

Portulaca, cheap and cheery,
How dull my door-yard and how dreary
Without your bright insistent gaze;
If withdrawn, your gay, beguiling,
Ever constant, winsome smiling,
Dark would be the summer days.

Cheap, said I? Forgive me, darling,
Sure I spoke like witless stalling,
Using words that have no worth;
I was careless when I said it,
Yet I give you highest credit,
Classing you with best of earth.

Choicest blessings cost no money;
Cheap are they as John's wild honey,
Israel's bread, Elijah's food;
Water, air, and light and shadow,
Song of bird and bloom of meadow,
All are cheap and all are good.

But you've a sweet way of forgetting
Slight or insult, never fretting,
Though your soil be mean and poor;
Never minding where I set you,
Or that never do I pet you
When you come about my door.

Portulaca, you run riot,
Regardless all of rule or fiat,
Nor sensitive nor shy you be;
Lawless quite of floral orders,
You skip o'er my garden borders
With a gay audacity.

Southern saw-grass couldn't choke you
Little Arab! There! I joke you,
Yet smiling still you onward go;
August suns and arid weather
Seem to suit you altogether,
Bringing out your broadest blow.

Oh, I own that you're bewitchin',
Peeping in my summer kitchen,
Flinging brightness 'bout the door;
And although I seem to scorn you,
Portulaca, I would mourn you
Should you come no more.

FAMILIARITY AMONG ANIMALS.

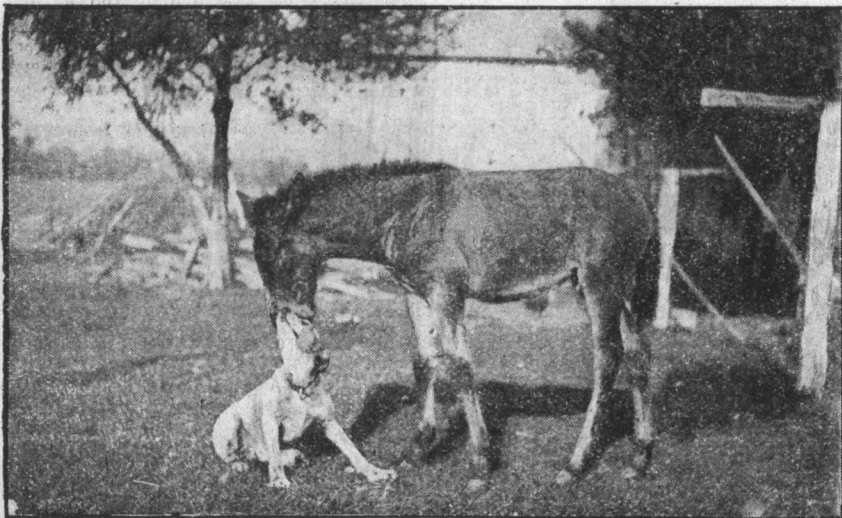
BY B. U. U.

Why is it that our attention is so quickly attracted to animals of different kinds when they become familiar with each other? It is the rule that each species wars against all others; the dog chases the cat, the horse runs the cows, the king bird attacks the crow, and the red squirrel is not friendly to his near cousins, the gray and black squirrels. We do not know the reason for this unless it is that each of the different kinds of animals and birds and fish are selfish,

far in the great battle between the different species man has outwitted all other kinds and has put "all things under his feet."

With this instinct implanted in our minds, and it is whether we are conscious of it or not, it is little wonder that we are attracted when animals show such friendliness as is displayed between the dog and the colt illustrated upon this page. That common law of the species which works favors for your own at the disadvantage of others, is broken.

Many a farm horse has been the scene of a dog caring for a nest of young chickens, or some kittens, and he will defend them against danger. The playfulness of the young is usually the most fertile time for starting friendships, for it is almost universally true that the friendships that occur between different



Familiar Farm Friends.

trying to make more room for themselves in the little world in which they live.

If we look upon man as an animal, we find that he, too, partakes of this nature and, speaking generally, is opposed to all other animals, getting them out of the road that he might have more room and security for himself. Within a few hundred years the forests of America have been depopulated of the wild creatures that once roamed among the trees, and only those beasts that serve to insure man's supremacy are allowed to remain. He is carrying it even to the insects and fungous diseases today, and we see him spraying his trees, covering ponds with oil, screening his house, smudging, generating gasses, treating woods and materials, and a hundred other things for the simple purpose of ridding his surroundings of the insects that trouble him and limit his victory and kingship.

There is the same spirit among nations. Men belonging to different tribes do not clearly understand each other. Their habits of living, of social intercourse, of thinking, are different and they measure things by unequal standards. Because of these misunderstandings arise easily and trouble usually follows.

Thinking over these matters caused the scientist to manufacture the phrase, "The survival of the fittest," and by it he meant that the animal best prepared to meet opponents was the one that survived. So

kinds, are formed when one or both of the animals or parties to the fellowship are young.

There is often shown in these relations the protective instinct of the older animals. They recognize the innocence of the infant, or young, and when they see danger at hand, stand ready to protect. This is illustrated often in the house dog, who might be indifferent to one of the older members of the home and yet would immediately imperil his life for the sake of a child. But a fortnight ago the writer was threatened by a dog out walking with a little child, and the dog is usually very kind.

In speaking of these things we are not ignorant of the affinity that exists among some forms of life, like the attitude of ants toward some of the aphides. But usually, as in this case, the friendship or relation is the result of mutual benefit or at least benefit to one of the parties. With the ants, they are benefited by the milk which they secure from the aphides, and to secure this they take their "cow," as it were, where she can enjoy good pasture. Man's interest in domestic animals is based upon the advantages he secures from the relation. Likewise is his efforts to protect game, toads, ladybugs and birds—in some manner he hopes to benefit by favoring them. But once allow one of these favored kinds to get a good foothold and see what will happen.



The Bones of Pizarro, Conqueror of Peru, in the Cathedral at Lima.

In England the English sparrow was known as a bird that destroyed chiefly harmful insects. When it was brought to this country for the purpose of benefiting agriculture and failed, it was not long before the forces at man's hands were brought to destroy, if possible, the imported bird.

In the light of these considerations we are impressed with the selfishness of the different species of animals and of the tendency to work for the perpetuity of the kind. Hence, familiarity between different animals is interesting and indeed pleasant to look upon because it disregards the selfish law of battling to live.

LITTLE ESSAYS OF FACT AND FANCY.

They Worried About It.

BY CARL S. LOWDEN.

Sam Walter Foss once wrote some verses about a man that worried a great deal, and these are the fears that worried him: "The sun's heat will give out in ten million years more; some day the earth will fall into the sun; the earth will become much too small for the race; the Gulf Stream will curve and New England grow torrid; in less than ten thousand years our supply of lumber and coal will give out."

So he worried, but his wife took in washing and he didn't worry about that, and his daughter sewed shirts and he didn't worry about that; he sat by the stove and let his wife rub, and he didn't worry.

It is a clever poem. It teaches a lesson of no worry by showing how really absurd some worryings are. How much mental energy is lost by worry? It must be tremendous. And, after all, worry never helped anybody to live better. Worry is utterly useless and should not be given a place in the tangled skein of existence.

Here is a bit of verse that is the exact

embodiment of the spirit of no-worry. It is the attitude that wins in life:

"Let the howlers howl, and growlers growl, and the prowlers prow, and the gee-gaws go it; behind the night there is plenty of light, and things are all right, and—I know it."

The worry of women is usually extreme. The bridges women build in their imagination, and the bridges they cross are many. Women worry more over things that have not happened than they do of actual occurrences.

The absolute uselessness of worry ought to be enough to keep people from worrying. But it seems to be a natural trait. No one is exempt from it. Mothers will worry about their children, foolish worries! But of course a worry of this kind shows a warm heart and a loyal nature, and yet it does not do any good.

The civil war period was a time of national worry. Everybody worried and wondered. The war was fought just the same, and the result was just the same, regardless of the amount of nerve energy consumed in the fires of worry. It is sure that the men on the battlefield worried less than the women at home.

Some high-minded fellow penned the following lines and called it a "Song of Worry:"

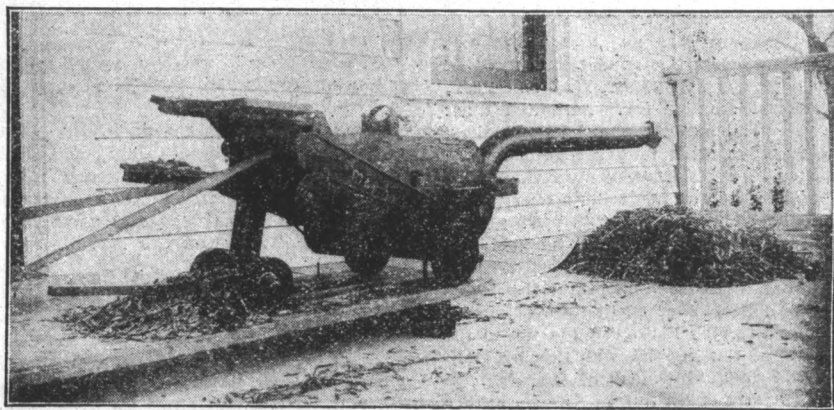
"What's the use to sit and worry if you lose, who thought to win? Kick the worry out the window—let the living sunshine in. What's the use to work for worry? Ain't there any hope in sight? Kick the worry out the window in the blizzard and the night. What's the use? There ain't a reason nor a shadow of a rhyme, when the world rolls on in music, and the stars are keeping time. Time ain't crying, he's a flying, and you're on the wings of Time."



"Necessity is the mother of invention."

Not finding feed to his liking on the ground the pet lamb has taken recourse to the unusual method of standing upon his hind legs and browsing the leaves and tender twigs from the lower branches of the apple tree. It is peculiar that pet animals, as a rule, are more apt to perform freakish tricks than animals under ordinary conditions. Is it because of their association with man?

Among Our Youthful Mechanics.



Grain Thresher Made by 17-Year-Old Boy.

I have been greatly interested in your pictures both because of the views and because I have a kodak. I send you a photo of a separator made by my friend, Clayton C. Browne. He made it in 1908, when he was 17 years old. He made everything but the boxings in which the cylinder sets. For this he made a pattern

of wood and had the blacksmith make the iron. The machine includes a cylinder and concaves, shakers and sieves, a fan for cleaning the grain and a blower. It is 30 inches from feeder to blower, stands 12 inches high, and is five inches wide. It will thresh oats out of the head, and separate the grain from the chaff.—Geo. L. Thornton.

(Continued from page 132).

automobile. They were attracted by our appearance and got out to look us over. That is the reason my patient remembers me. She also kept us out of a night's lodging here, I imagine. I hardly think I looked quite as disreputable as I do this minute, but after they had literally covered us with road dust we were far from beautiful to behold."

"I know you can never forgive us," said the sick woman penitently, "and I don't blame you. Please bring the ladies in to see me that I may apologize to them, won't you?"

It was late in the evening of the fourth day from starting that the black wagon reached the Roswell home and the tired members of the party climbed down to refresh themselves with clean garments, a good supper and a long night's rest.

"Well, we're back safe and sound!" called Hannah as the family streamed out to welcome the wanderers. "We have been mistaken for tramps and gypsies, lodged in a barn two nights, Dr. Gatch saved a woman's life, and we have had so many adventures that it will take a month to tell them all, but we got Mrs. Parks to her mother and she's going to get well."

"Things have been happening while you were away," said Mr. Roswell, quietly. "Judge Hastings heard of your trip, and he made you physician to the Children's Home, Dr. Gatch. Dr. Clark had almost landed the appointment, but when the Judge heard Clark had refused to go to see Mrs. Parks unless Jim could pay in advance, he gave the place to you. It only pays five hundred a year, but it doesn't occupy half a man's time, besides getting him in with the best people of the county who are back of the Home. I congratulate you!"

"Hannah, dear, it doesn't seem quite fair that you are left out in this manner," said Mrs. Gatch, putting her arm about the girl who had become very dear to her during the past week. "You ought to have the largest share of the reward, as you planned the undertaking and did most of the work."

"I do share the reward," said Hannah, stooping to kiss the eager little woman. "My plans turned out all right, and one of these days when Dr. Gatch is rich and famous I will apply for the place as ambulance driver, and bring patients to him in the black wagon."

"I'll never be rich and famous," said the doctor quickly, "but I appoint you my ambulance driver right now. I am sure no hospital ever had a more capable, cheerful or trustworthy one. I owe all this happiness to you and my wife, for I never would have gone into the undertaking if you had not argued me into it. And if Mrs. Parks wants to come home tomorrow I'm ready to make the trip again."

"So are we!" cried Hannah and Mrs. Gatch, but when the Parks family returned some months later, well and happy, the black wagon was not called into service, for Jim Parks had acquired an old horse and wagon and the family felt sure prosperity had dawned for them.

THE WOMAN IN THE CASE.

BY EDGAR, WHITE.

It was during a court vacation and the lawyers were resting their brains in camp on the Charlton river. Around the cottonwood fire were M. D. Campbell, a tall slender young man whose cold blue eyes became soft and childlike when on an expedition of this sort; Alex. Doneghy, who as a child had known Quantrill, Bill Anderson and the bloody rough riders of the border between Kansas and Missouri; Major Ben Dysart, a good old "rebel" of the 60's; the circuit judge, N. M. Shelton, and several smaller fry. Although duck were plentiful among the bottom lakes, these nimrods with tender feet did more slaughter in a reminiscent way than with their guns. As story tellers every man was an artist, and the nights were all too short for the adventure tales by field and flood, and in the wild charge with flashing sabres, because more than the Rebel Major had been shot at in time of war.

Among the rich history made under the red glow of the log fire was this by Doneghy, the "acquaintance" of Quantrill:

"I was journeying out to Denver with a sample case, before I became a lawyer, and fell in with an old-time friend, George Fleming by name, an undertaker by appearance. Fleming traveled out of Boston. He was a grave, low-talking man, weighing every word he said as though it might affect the nation's weal if incorrectly used.

"Fleming never by any chance became

excited and if he ever smiled it was inwardly. He lacked 6,000 miles of being a fool, however, and with all his dignity and reserve was a thoroughbred humorist. Guess you've noticed that the real funny man never laughs.

"In a gently-modulated voice Fleming was telling me about people and things in his boyhood home, which was Williamsburg, Virginia, formerly in the district of Jamestown. Seated directly behind us was a great big fellow, his face covered with whiskers like a Boer, and paws the size of hams. By a side glance I could see him opening and shutting his mouth, as though he were dying to say something. Then he fidgeted about, laying his paw on the back of the seat ahead of him and again placing it on the window casing. Fleming, looking straight ahead as though he saw nothing, kept on with his talk about Williamsburg and Jamestown. Finally it became too much for the whiskered gentleman, and pushing his big head in between us he blurted out to Fleming:

"Be you from Williamsburg, mister?" "My companion turned as if in surprise, stared at the man behind us and then admitted the accusation.

"Williamsburg, Virginny?" "Williamsburg, Virginny," replied Fleming.

"Say, pardner," said Whiskers, hitching himself up closer, "that's whar I'm from! Borned thar; left the ole place nigh on thirty years ago."

"Well, I declare," replied Fleming, "Maybe I know some people you do there."

"Of course you do if you ever lived there," remarked the Virginny gentleman, in a shrill voice. "There was Smith, sometimes called 'Possum Smith.'"

"Smith? Let me see," thoughtfully replied my friend. "Name does sound familiar. Wonder where I heard it? No—it couldn't be—was it John Smith?"

"Yes, sir—e-e! Ye struck bullseye first pop. Ole John Smith, 'Possum Smith, they called him. And you knowed him?" "His big head was right in between us now, he having unceremoniously shoved me to one side.

"Yes, I knew him," said Fleming, slowly, as if trying to recall forgotten scenes. "But it was mostly by reputation. He was something of a hunter?"

"Right you are, pard! The dog-gondest hunter you ever see, Smith was. He hunted so much he didn't have time to get him some new clothes when his ole ones was in rags. You never seed such a blamed hunter as that feller Smith."

"Rather on the—er—roving order, wasn't he?" suggested Fleming. "Independent cuss, didn't care what you thought about him."

"That's him for all the world!" cried Whiskers, admiringly. "What he didn't know he didn't want nobody to tell him. And you knowed ole John Smith—ole 'Possum Smith, I mean?"

"Just by the current talk in the neighborhood. He was a rather gay sort, and of course people talked about the way he went on. Got mixed up with a woman, didn't he?" asked Fleming, meditatively.

"Wouldn't be at all surprised; it would be just like him. Ever hear the woman's name?"

"I was trying to think," said Fleming, taking off his hat and scratching his head. "I did hear her name, but it seems to have slipped me. Let me think a little."

"Shore. Maybe it was Betsy McGovern. She and John used to be pretty thick."

"No, it was some funny name. Strange I can't recall it."

"Maybe it was the widow McPherson. They said once that she—"

"Ah! I have it now," a sweet smile spreading over his round face. "Her name was Pocohontas."

"Whiskers looked reproachfully into the innocent eyes beside him, and fell back into his seat with a weary sigh. When the train stopped he shouldered his carpet bag and things and went into the smoker. That was the last we saw of him."

THE GAME LACROSSE.

BY F. Z. I.

Our American boys are familiar with base ball, which may well be called our national game because of its popularity, and with foot ball and basket ball. But the game lacrosse is only known on this side of the boundary line by reputation, except in a very few instances. It is, however, the national game of Canada.

The Indians originated the game. Their rules were much different than those which control the game today. While

there are two teams with but 12 men on each side now, descriptions of games played by red men state that fully a thousand persons were engaged.

The grounds remind one of a foot ball field. Goals are situated at each end and are not less than 125 yards apart. Each goal is marked by two flag poles six feet high and placed six feet apart.

The players of the opposing teams play in pairs as in basket ball, each trying to cover the other and prevent him getting to the ball and forwarding it to his own goal. One club guards one goal and tries to get the ball over the other.

The positions are center, half-way between the goals, goal-keeper in front of the goal of the side, point in front of the goal-keeper and a little to the right, cover point a few paces in front of the point and to the left, while in front of the opponents' goal is home and between home and cover-point the fielders positions are located. These latter positions are not fixed at all rigidly, the players being given much liberty.

The opposing side has its men reversed—the home man being near the goal-keeper of the opposite side, etc.

To play, the centers lay their sticks side by side at the center of the field. The referee places the ball between the sticks and when all is ready shouts "Play." Each center scrambles for his stick and fiercely proceeds to get the ball away from the other and toward his goal. The ball is caught up on a stick and skillfully thrown to other players of the same side who pass it on. The opposing men attempt to get the ball from the player who has it or while it is in the air or on the ground, and work it toward the opposite goal.

From the time the ball leaves the center, there is not a moment's pause in the playing till the ball has successfully passed one of the goal-keepers, when "Game" is called by the referee. The players then take their positions on the field again and the ball is once more started from the center.

From the standpoint of the spectator the game is exceedingly interesting, for every man is in the game from the start and there is no let up as in foot ball when the ball is "down." It is not probable that the game will displace base ball but it is being introduced in places in the states and will likely become more popular among the Americans than it is at present.

KINKS.

Kink 1.

The Point of View



Poor Peter Pumpkin, cooking — Poor Jimmie Jones went North for —
And talking to his four pet — To string on poles some telegraph —
Said, "Nothing else would be so — He said, "I say (and I'm no —)
As living in a cake of — There's naught on earth so good as —"

Kink II.—Some Pigs.

Name the pig that is selfish as selfish can be (1).
And the one that reminds you of money (2).
Then the third one you see in many a shop (3).
And the next one is little and funny (4).
The piggie that lives in a dwelling abroad (5).
And the pig that all art stores do sell (6).
The pig who worshiped the statute he made (7).
And lastly the one that hangs up by the well (8).

Answers to July 16 Kinks.

Kink I. Botanical What-Is-It.—Small flowered or kidney-leaves crowfoot; Ranunculus abortivus; Ranunculaceae or Crowfoot family.

Kink II. Enigma.—Eatable. Winner of July 16 Prize. Fern G. Hacker.

Prizes for Straightening Kinks.—To the sender of each of the ten nearest correct answers to all of the above Kinks, we will give choice of a package of 50 postcards of general interest, a nice leather purse, or a copy of the Everyday Memorandum cook book. Where contestant or some member of his family is not a regular subscriber a year's subscription (75c) must accompany answers. Answers must not reach us later than Sept. 10, as correct solutions will be published in issue of Sept. 17. Address answers to the puzzle Department, Michigan Farmer.

MOTHER'S "NOTIONS"

Good for Young People to Follow.

"My little grandson often comes up to show me how large the muscles of his arms are.

"He was a delicate child, but has developed into a strong, healthy boy and Postum has been the principal factor.

"I was induced to give him the Postum because of my own experience with it.

"I am sixty years old, and have been a victim of nervous dyspepsia for many years. Have tried all sorts of medicines and had treatment from many physicians, but no permanent relief came. I believe nervous dyspepsia suffers more than other sick people, as they are affected mentally as well as physically.

"I used to read the Postum advertisements in our paper. At first I gave but little attention to them, thinking it was a fraud like so many I had tried, but finally something in one of the advertisements made me conclude to try it.

"I was very particular to have it prepared strictly according to directions, and used good, rich cream. It was very nice indeed, and about bedtime I said to the members of the family that I believed I felt better. One of them laughed and said, 'That's another of mother's notions,' but the notion has not left me yet.

"I continued to improve right along after leaving off coffee and taking Postum, and now after three years' use I feel so well that I am almost young again. I know Postum was the cause of the change in my health and I cannot say too much in its favor. I wish I could persuade all nervous people to use it."

Read "The Road to Wellville," found in pkgs. "There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

FIRE LOSSES

3/4 by Lightning
1/4 Other Causes

Is it any wonder that fire insurance companies are granting low rates to induce people to protect their buildings from lightning by the D & S system of lightning rods?



Over 2000 Insurance Companies Endorse the System of Lightning Protection Perfected by Professor West Dodd.

You can have both protection from lightning and fire insurance for the cost of fire insurance alone. The reduced rate of fire insurance will pay for your lightning rods. Not a single building protected by D & S lightning rods was ever destroyed.

Think of Your Family

Fire insurance does not repay you for the loss of your loved ones. But D & S lightning rods protect them. Can you afford to go on taking the chances?

Write and let us tell you all about D & S lightning rods, the nation-wide insurance company endorsement and our guarantee to you. Book on Laws and Nature of Lightning Free.

DODD & STRUTHERS

429 Sixth Ave., Des Moines, Iowa.



Telegraph Operators Are in Demand

You can earn a good salary as a telegraph operator. Now is the time to study it. Young men and women wanted to fill railroad and government positions. Expenses for course of 24 weeks tuition, board, room, including typewriting, \$80. Positions secured graduates. Write for cata. MARION TELEGRAPHIC School, Box 15, Marion, Indiana.

WANTED—We are increasing our production, and invite applications from the following: Lathe, Planer and Floor hands. Ideal home conditions, steady employment, and good wages plus premium for extra production. Address **ERIE CITY IRON WORKS, ERIE, PA.**

12 YOUR NAME IN GOLD 10c
or town greetings on Gold Embossed Post Cards
G088 CO., 2147 Arthur Ave., New York.

SALESMEN WANTED—To sell FRUIT TREES & PLANTS. Free outfit. Commission paid weekly. Write for terms. Mitchell's Nursery, Beverly, O.

Let Me Start You in Business!
I will furnish the advertising matter and the plans. I want one sincere, earnest man in every town and township. Farmers, Mechanics, Builders, Small business men, anyone anxious to improve his condition. Address Commercial Democracy, Dept. D 30, Elvira, Ohio.

PATENTS BOUGHT

Many deals closed by our clients—one recently for \$680,000.00—our proof of Patents that PROTECT. Send \$c postage for our 8 books for Inventors. R. S. & A. E. Lacey, Div. 89, Washington, D. C. Estab. 1869.



Woman and Her Needs

At Home and Elsewhere



ARE YOU TOO TIRED TO EAT? MANY MOTHERS OFTEN ARE.

SOMETIME ago I remember of reading of a woman who died from an ailment which puzzled her family. Finally the family physician bluntly told them the woman had died of starvation. Her husband was horrified. He had always prided himself upon being a "good provided." His table was bountifully spread with the best of everything, and himself and five children were robust and strong, living witnesses to the fact that his family was well fed. He indignantly declared that the doctor was crazy, but the doctor, who knew the way of the household, stuck to his diagnosis.

"Your wife did her own work for your large family," said he. "She prepared all the meals, and by the time each meal was ready she was always tired. Then the children never came when they were called, she had to bring them in one at a time and get them to the table. You were always too hurried to help serve, and she had to wait on five hungry, impatient children before she started her own meal. By the time she could think of eating her own dinner everything was cold and tasteless. She was too exhausted to warm things up, and besides her appetite was gone. She thought she was not hungry, and so did not eat. Of course, she never went entirely without food, but she did not get enough nor of the right sort to properly nourish her, and as a result she is dead from starvation."

Of course, this is an extreme case. Perhaps it is not even true, but is just a "newspaper story," as we say. But there is enough in it to make many women stop and think of their own case. Isn't it true, tired mother, that by the time you have the meal all ready and the family started, you find you don't relish your meal and often rise from the table unsatisfied?

Women, mothers rather, are too prone to think of everybody but themselves. Father and the children must be looked after, "He" expects it and the children need it. The choicest bits go to the father and the brood, and mother takes what is left. Then there is the constant getting up and down to wait upon the table, which seems to be inevitable in some homes. Many women never look the table over to see that everything is in place, and are compelled to get up and down a dozen times during a meal for some forgotten article. Others are careful to see that everything is on that is needed, but John or the boys ask for something not on the table and mother jumps up and runs down cellar after the dainty. Then the bread plate will need replenishing, the milk pitcher is emptied, the butter dish is cleaned up, or some other dish must be filled. Mother gets up for everything, and the result is that she never knows when she is through eating. She either eats more than she should, or less, and in either case indigestion and its kindred ills is the result.

To me, looking after the table is the hardest part of the whole day's work. Perhaps years of boarding, with a maid to bring everything has spoiled me, perhaps I'm constitutionally lazy. Be that as it may, a meal is spoiled if I have to leave the table two or three times. But just how the woman who does her own work is going to arrange so she need never leave the table is a problem I have not solved. Of course, one can see that everything necessary is on before being seated. Sugar, cream, salt and pepper, sufficient spoons, glasses, cups, saucers, side dishes and knives and forks can always be provided when the cloth is laid. Bread and butter, relishes, and things of that sort, with the meat and vegetables can be in place at first. Sometimes the dessert may be on a small table at the hostess' right, so she can serve the des-

sert and put the soiled plates on the table. But personally, the sight of that table of soiled dishes, goes against me. I would rather carry them to the kitchen than endure them in the dining room.

And again, suppose the dessert is ice cream, or a pudding which must be kept hot. You can't have that on your side table. Or suppose you have soup and want to keep your meat and vegetables warm on the stove. You must get up then. Besides, there is that bread plate. You don't want to bring the loaf to the

table, nor leave it to dry out on your side table.

For one, I have not solved the problem of how to serve a meal without getting up, and an attack of indigestion has been the result. In families where there are growing girls, the question might be solved by having them take turns with the mother in waiting upon the table. Then no one would suffer and the daughters would be learning valuable lessons. But in families where the children are small, the mother seems to suffer. I wish some of my readers who have struggled with the same question would write and tell me how they are doing. I, for one, don't want to starve to death after cooking three square meals a day for my hungry brood.

DEBORAH.

Country Women As Money Earners—No. 11. A Successful Venture In Squab Raising.

By Frank H. Sweet.

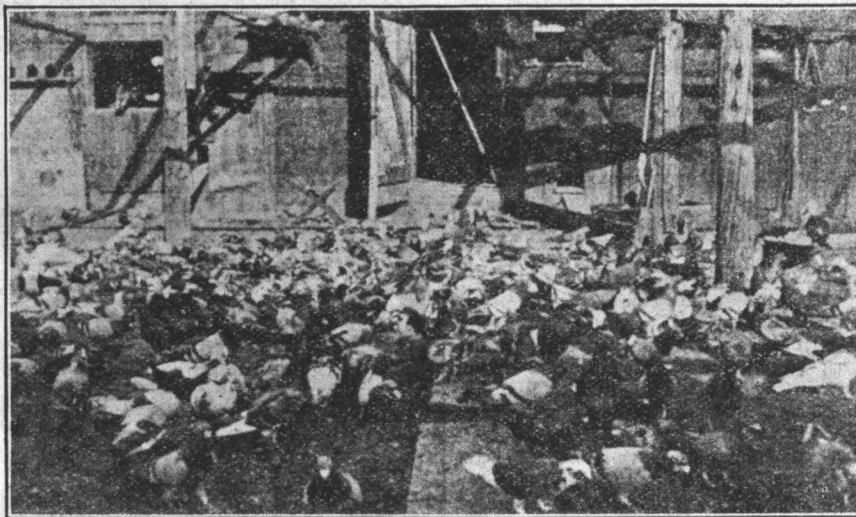
SQUAB-RAISING for market purposes has long been considered a hazardous venture, for many who have tried it have met with but indifferent success. Lack of knowledge has in a great measure been responsible for this fact, no doubt, but it has been left for a woman to show what might be accomplished with care and thorough understanding of the subject.

Two years ago Mrs. Clara Mossler, who lives on a farm almost under the shadow of the Blue Ridge Mountains, cast about her for a profitable occupation which might be undertaken at home. The farm she lived on consisted of about 100 acres, and the task was not an easy one. After considering many projects and abandoning each one, she had her attention called to squab-raising. Careful study convinced her that in spite of the many failures made along this line, it could and should be made profitable. So she began the venture which has indeed proved a big success.

During leisure hours Mr. Mossler cut the timber for building the squab-houses, and placed it behind the big barn to dry.

and she soon found that the frequent visits which she paid them did more harm than good, as the birds acted frightened and nervous. Now she visits their houses only about twice a week, that is to enter the pens, the other visits being made just to the flying cages outside, to give the birds food and water. A bath, too, is a luxury enjoyed by the pigeons, and care is taken by Mrs. Mossler to keep it clean and thoroughly sterilized in order that no germs may breed there.

The runs, or flying cages, are found to be great helps in the keeping of pigeons, as birds allowed their freedom do not prove nearly as profitable as those which are kept in cages where all needed exercise may be had. The flying cages at the Mossler Squabbery are about 20 feet long and ten feet wide, covered with wire, and with porches run through them, as well as the long sunning board underneath the eaves, but enclosed with wires. The runs were prepared with great care. After digging up and removing four feet of the old soil, Mr. Mossler filled in with a foot of coarse rock, another of loam, a third of sand and a fourth with good gravel.



Squabs on the Farm of F. S. Sterling, of Monroe County.

Afterward it was hauled to the village mill, where it was sawed and planed. When this was done the site for building was chosen. A slope of the hill proved most promising, and the houses were erected facing the valley, insuring their protection from the severest weather, as well as plenty of sunshine. The work of building the houses and making the runs was all done by Mr. Mossler, who estimated the cost of \$25 for each house. Since the first building there have been several additions made to hold the rapidly increasing flock.

When the houses were ready for the reception of their little inmates, Mrs. Mossler purchased 19 pairs of mated Plymouth Rocks and placed them in their new home.

The pigeons were very timid at first,

This allowed perfect drainage, and gave the birds scratching facilities. That they thoroughly enjoy it may be seen by the number of birds always scratching and stretching in the runs.

Inside the pens a covered walk leads from one apartment to another, and along it are placed tin-lined boxes containing the feed. Along the sides of the pen proper are shelves or boards, on which the nests are placed. These nests or bowls are so placed that as each nest is used and vacated by the parent birds, it can be taken out, cleansed and returned to its place, where the birds may again use it after filling it with fresh straw. In the pens are placed boxes of straw and tobacco stems. The latter are liked by the birds, and also afford an excellent germicide.

When the nest is completed, the female lays two eggs, and the work of hatching begins in all seriousness. Should the mother become lax in her duty, the father bird urges her on, and often compels her to stay on the nest. He is by no means a sluggard, though, and takes his turn in keeping the eggs warm until hatched. When the squabs appear, the hardest work of the parents begins. They are voracious little creatures, and it keeps both birds busy in feeding the hungry babies. Here, be it said, that the squabs cost really nothing to raise, as the parents feed them with a milky secretion from their crops until they are nearly full grown. As the babies grow older, the milk thickens, and in two weeks the squabs are taking whole grain from the crops of their parents.

Then the father is left to tend them himself while the mother makes a new nest and commences the work all over again. Some pairs have been known to raise 13 pairs of squabs in a year. When the first pair have reached the age of four weeks, they are removed from the nest and prepared for market, this being the proper time for killing.

There are several diseases peculiar to pigeons, but the most common of these are canker and "going light." In the latter case the bird refuses to eat and literally starves to death. The most merciful cure is death, or giving the bird its liberty, when it will perhaps find for itself a remedy at the hands of Mother Nature. In any case, the affected bird should be isolated, as both the diseases mentioned are contagious. Treatments for them vary, and are successful or not as the development of the disease or the methods used prove favorable or the contrary. The Mossler farm has been wonderfully free from disease, and Mrs. Mossler attributes this to the fact that absolute cleanliness has from the first been observed. Each week the apartments have received a thorough cleaning, and the yards have been kept free from litter and feathers.

In the raising of these little birds many strange traits and characteristics will be observed. And the work is interesting as well as profitable. Mrs. Mossler has observed that they will never become tame enough to allow her to pet them and handle them, as is erroneously thought to be the case; on the contrary, they are exceedingly shy and reticent birds, flying from the approach of a stranger. Another trait observed is the utter indifference of the parents to a little one which has fallen from the nest. It is "fallen from grace" indeed, and no amount of putting it back will ever induce the parents to reclaim it.

The feeding of the pigeons does not require much care, as they eat nearly all the things which hens do. Mrs. Mossler feeds wheat, corn, barley, mixed grain, split peas and other things of like nature, taking care to give them plenty of charcoal and grit, which is another great preventive of illness.

In speaking of the venture, Mrs. Mossler says that she has now 500 pairs of mated birds, which she is ambitious of making 1,000. They increase rapidly, and with the additions to the flock new houses have appeared, until now there is quite a colony on the sunny slope. The flying cages are filled with bright-eyed pigeons, whose glossy plumage and alert movements, together with their plump little bodies, bespeak the success of her work.

From carefully kept accounts, Mrs. Mossler can tell exactly whether the birds are profitable or not, and each pair which does not prove so is removed, giving room for another pair. The work of each pair is known, and the actual cost of feeding each bird has been deduced. The young are fed by the parent bird, so that need not be taken into account. The squabs can easily be sold in the markets, or to private customers, for \$3.00 a dozen.

Mrs. Mossler's squabs have become so well known among the summer residents of the neighborhood, that the demand far exceeds the supply during the summer months, and in winter there is little de-

crease, as most of the customers continue to send their orders from the city and many cases are shipped away each week. And though one had not the advantage of a neighboring summer resort for market, there is practically an unlimited demand in all cities, as successes in this venture are few, and the birds are by no means plentiful.

The question of possible success is solved on the Mossler farm, and it is not impossible for anyone who, like Mrs. Mossler, wishes to turn some of her time into the coin of the realm, to undertake the project with as much success. One must, of course, give the matter thorough and careful study, and enter it from a practical business standpoint, otherwise the labor is wasted. Once tried, it will prove a pleasant and novel occupation. There is doubtless a time coming when this, as well as the other fields of labor, will be overcrowded, but it will be long before that time arrives, and at present there is plenty of scope for the beginner who would enter a work where there is little competition.

GRAPE JUICE—ITS MANUFACTURE AND USES.

BY H. F. GRINSTEAD.

There are several ways of preventing fermentation in grape juice and cider, all of which consist in destroying the germs which cause this change in all fruit and juices therefrom. The means employed differ, there being chemicals used for that purpose, such as benzoic and salicylic acid, though these are not to be recommended, being considered injurious to health. The juice may be boiled and skimmed then canned as other fruit. This will destroy the germs but will also impair the flavor. By far the best method is by sterilizing at a temperature a little below 200 degrees.

In the first place, only sound and not overripe fruit should be used. If there is no cider press at hand to extract the juice it may be done by putting the grapes into a bag and squeezing by twisting till all the juice is pressed out that can be done in this crude way. Since the process of fermentation begins as soon as the fruit is mashed the liquid must be heated at once. The best way to do this is to put it into a double boiler or an earthen or enamel vessel which is placed in a vessel of water to prevent the juice from coming in contact with the fire, and gradually heating to a temperature of 180 to 200 degrees but no hotter. If a thermometer is not at hand the proper temperature has been reached when the juice begins to steam, but it should not be allowed to boil. It may be bottled or canned at once but a better way is to put the juice in an enameled vessel and allow it to settle over night, as this gives a clearer juice. Do not let it stand longer than 24 hours before bottling. Strain the juice through several thicknesses of flannel or run it through a filter made of thick felt, then fill into clean bottles which have been sterilized in boiling water. Set these bottles on a thin board which has been placed in the bottom of a wash boiler, then fill up around them nearly to the top with water and gradually heat till the water begins to simmer, or about the same temperature as the first heating, then seal with corks, or if mason jars are used, screw on the lid. Where corks are used, melted paraffin or sealing wax should be poured over the corks after they are in place. Juice preserved in this way will keep indefinitely and retain the natural flavor.

Unfermented grape juice is used in many ways, both for the invalid and those in good health; in cooking and for a refreshing summer beverage. Many ways to use it will be suggested, but here are a few good recipes.

For grape nectar take two lemons and one orange, a pint of grape juice, half a cupful of sugar and a pint of water. Serve ice cold.

For those who desire a nourishing as well as stimulating drink there is nothing better than a beaten egg to which is added two tablespoonfuls of grape juice and a little crushed ice. For those who love the flavor of lemons half a lemon will add to the taste as well as to the medicinal value of this preparation.

Grape punch is made by boiling together a pound of sugar and half a pint of water till it is thick syrup; take from the fire and when cool add the juice of half a dozen lemons and a quart of grape juice. This makes a fruit syrup similar to that used by soda fountains but much better, and it may be served either with water or soda water.

A quart of grape juice added to a quart of cream when freezing ice cream makes

the dish more palatable and beneficial.

These recipes will suggest others. A safe rule to follow is to use it where you would any other fruit juice, cider or lemon juice. For those who cannot eat solid food or are suffering from indigestion, a beaten egg and grape juice is at once medicine and food. It is useful in baking, to use in pudding, junket, fruit jelly, etc.

Flies are a nuisance in early summer and a pest later, but it is during the season when fruits, corn, pumpkins, etc., are being dried that they

A Way to Kill Flies. become a positive menace to health. All fruit dried in the sun should be

covered with white mosquito bar, care being taken to so place the covering that it will not rest upon the fruit. In order to rid a room of flies first see that the room is thoroughly clean. No dishes of ripe or rotting fruit, no papers in which candy has been purchased left on shelves or table, no crumbs. Lavender, mignonette and bergamot are odors especially distasteful to the house fly and a bouquet of any of these is not only pleasing to the eye but healthful in a room.

When September days come and the flies have gotten into the house in swarms, don't think that the frosts will kill them in a little while any way. Then is the time for vigilance and the housewife who shuts her eyes to the danger that lies in these scavengers is making a grievous mistake.

There are several ways of ridding one's rooms of flies. The old-fashioned whip made by cutting flour sacks in long strips and fastening them to a broom handle is good. Another method is to use the fly killers now sold at nearly every store. The leaving of poison about in open dishes is not advisable. There is too much danger that children or domestic animals may drink of it with fatal results.

According to bulletins sent out by the Fly-Fighting Committee of the American Civic Association of Washington, a better plan is to close all doors and windows, heat a coal shovel, stand it in a hod near the door and after covering the mouth with a handkerchief pour a teaspoonful of carbolic acid on the hot shovel. Leave the room quickly and allow the fumes to fill every nook and crevice. When the doors are opened it will be found that all the flies in the room are dead and can be swept up and burned. Pyrethrum powder may be burned in the same way and is fatal to flies.

L. M. THORNTON.

SHORT CUTS FOR HOUSEKEEPERS.

I save all the odd lots of fruit and juice when canning and then put all together with plenty of sugar, boil slowly and can. This makes a delicious "tutti-frutti."—M. E. H. C.

In making shells for lemon pies turn your pie tin bottom side up and press crust over the outside. Then bake and you will be surprised to see how nice they are.—E. G.

In these days of picnics and outings children are always coming in contact with a wasp or bee. Procure a small bottle of chloroform before starting out and a few drops on place where stung will entirely kill the poison and give instant relief.—M. E. H. C.

HOME QUERIES.

In The Farmer for July 16, J. H. wishes to learn a remedy for carpet or Buffalo bugs. If in your closets saturate an old sheet with formaldehyde and hang in the closet, first stopping up all cracks, leave the sheet 24 hours. If in carpets or rugs, take them up, give a good beating have floor washed in turpentine water. When dry sprinkle hemlock or cedar oil around the base boards before laying the carpet. Smoking a room with sulphur will kill them. Be careful and put the dish of burning sulphur on bricks that the floor may not catch fire. If in furs hang out in sun, give a good beating, then take a clean, coarse comb and comb thoroughly. This will remove all eggs, etc., then put cedar oil on cloth and put in the box with your furs. If one desires to learn whether there are carpet bugs just take a piece of red flannel and lay on floor or shelves of suspected place. Next day, if any, you will find them on the flannel and easily destroyed. They are very partial to red flannel. Eternal vigilance is the housewife's only motto.—M. E. H. C.

Dear Editor:—I am very anxious to get hold of some old-fashioned coloring recipes, black, blue, brown, yellow and orange. There used to be a list printed on cardboard. If I could get this I would gladly pay for same.—K. B., Howell.

How to Buy Soda Crackers in the Country

Next time you go to the store buy enough Uneeda Biscuit to last till next market day. "But," you say, "will they keep that long?" Yes—

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The reservoir is all copper and heats like a tea kettle, through a copper pocket, stamped from one piece of copper, setting against left hand lining of fire box. It boils 15 gallons of water in a very few minutes and by turning a lever the frame and reservoir moves away from the fire. This feature is patented and is used only in the Majestic.

It is the best range at any price—a range with a reputation and it should be in your kitchen. It is for sale by the best dealers in nearly every county in 40 states. If you don't know who sells them in your vicinity, write us and we will send you our book, "Range Comparison." Everyone thinking of buying a range should first read this booklet. Majestic Manufacturing Co. Dept. 21 St. Louis, Mo.

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AGRICULTURE IN THE HIGH SCHOOLS OF MICHIGAN.

The subject of industrial education is one of rapidly growing interest to all classes of people. The impression is gaining ground that the work of the public schools can be broadened without materially interfering with the so-called regular academic work, and by doing this the public school will more nearly meet the expectations of the people because it will more closely touch the activities of human life.

Intellectual training has been the dominant feature of all educational work and it must continue to be such. At the same time we must recognize that education should produce efficiency. This means that we must add to our school work more thorough physical training, together with what may be called industrial training or training along the line of vocations.

It is not possible to teach all the vocations known to mankind in the public schools, therefore we must select certain ones which are fundamental. At the present time the work in domestic science and domestic art, music, drawing, and manual training are preparatory for vocational work and to this list we must add agriculture, which is the fundamental vocation of mankind. During the past ten years the demand for vocational training has become more and more insistent and the experiments which have been tried show clearly that this work can be done and that its effect is to improve the quality of regular school work rather than to hinder it.

Agriculture for the rural schools has been discussed under the head of nature study, elementary agriculture, and industrial education, and the interest is becoming wide-spread. Since 1897, during which year the first work in agriculture for secondary schools was done in this country, the movement has become quite general. At the present time over 15 high schools of the Minnesota type, 16 colleges, 115 state and county normals are presenting courses in agriculture and over 500 public and private high schools including in their course of study some instruction in agricultural subjects.

The teaching of agriculture is required by statute in thirteen states. At present there are two lines of work being presented in secondary agriculture. One is in special secondary schools such as are found in Wisconsin, Alabama, Georgia, Oklahoma. The second line is the introduction of courses in agriculture in the public high schools. It is not necessary here to enter into a discussion as to the merits of these two lines of work. Each line is demonstrating its value and time alone can determine which is the more effective and valuable for the people at large.

In Michigan we have one special school of agriculture which has been doing most excellent work during the past three years. One year ago we began the subject of agriculture in the public schools by introducing a course into one high school. Out of 46 boys attending the high school, 44 elected the agricultural work. The work was undertaken purely from an experimental standpoint but it has proved an eminent success. During the past year five additional high schools have offered courses in agriculture and 225 young men have been studying in the six high schools. Six additional schools will offer the course during the coming year and thus in the school year of 1910-11 we shall have twelve high schools in Michigan presenting agricultural subjects.

The plan of introducing the work is as follows: We make the subject elective in each grade of the high school. For the first year we make botany a part of the agricultural course and add to the regular work what we term agricultural botany, which is a special study from the botanical standpoint of weeds, grasses, seeds and grains. For the second year we give half a year of farm crops and half for horticulture. During the third year we offer half a year of live stock and half a year of soils. For the fourth year we present the subject of live stock breeding and feeding and in the second half of the year farm management, farm machinery and mechanics. This plan offers one credit in each of the grades that is agricultural and the effect is to hold students in school during the high school course. It also affords an opportunity for young men to enter the high school and select the agricultural course and take the entire work in one year.

The work is presented largely from the scientific standpoint in order that there may be an opportunity for the practical

application of the other sciences taught in the high school. We endeavor to show the students that agriculture is a science and that the operations of farming are based upon scientific principles and governed by natural law. Some time is given to agriculture from the art side. This is done by actual demonstration work upon plots of ground side by side set apart for high school use, as well as actual demonstration on the home farms. Students are required to observe the various lines of farming operations as pursued on nearby farms and to study means and methods for improving present conditions.

An attempt is made to set up ideals of the different phases of agricultural work. For instance, the student is taught how to produce a perfect crop and to know when he has a perfect product. In other words, he gets the true type in his mind. The same plan is pursued with other subjects, especially in the work in live stock.

In every case a special teacher is employed who is a graduate of the agricultural college and is therefore competent to present both the science and the art of agriculture. These young men have sufficient of agricultural pedagogy so that the teaching is based upon correct pedagogical principles. The following facts have already been demonstrated: First, that there is need for agriculture; second, that agriculture can be profitably taught in the public high schools; third, that expenses for materials, laboratories, etc., are comparatively small; fourth, that the work steadies the work of the entire school and produces most valuable results from a purely educational standpoint; fifth, that the results are practical so far as actual farm operations are concerned; sixth, that through the introduction of the special lectures for the farmers of the community, the interest of the farmer is aroused and the influence is wide-spread; seventh, that the presentation of the subject in the high school at once raises the subject of agriculture as a subject of study to the same place as the other subjects in the high school curriculum; eighth, that the influence upon the individual student is very marked as already we have seen young men change their course of life and enter upon agricultural work with greater zest and zeal, and these same young men actually demonstrate on the farm that the theories they have learned in school can be applied in everyday life, and as a result there is greater enjoyment in the work and greater profits on the farm.

These results have been clearly secured and have demonstrated the feasibility and the practicability of introducing vocational courses in our public schools. We believe that such a course, judiciously managed, will enable the school to measure up more fully to the definition of a real public school, that is, that it is the interest which enables the students to enter at once intelligently into the activities of everyday life and the school itself becomes a means of increasing the efficiency of the people because it touches in a vital way the activities of human life.

Ag. College. W. H. FRENCH.

CROP AND MARKET NOTES.

Ottawa Co., Aug. 13.—The severe drought still continues. There has been only a few light showers in two months. Pastures have become so dry that most stock have to be fed the same as in winter. Corn is very spotted, and is drying up, especially on clay. The prospect now is that potatoes will be the shortest and poorest crop for many years. They are small and but few in a hill. The ground is so dry and hard that farmers are unable to plow for wheat, which is something unusual. Threshing is in progress, and wheat and oats are turning out fairly well. Hay is bringing good prices, but there is not much being drawn to market. The price of butter is advancing some and will probably go much higher if the drought continues.

Gratiot Co., Aug. 12.—At this time the county is in great need of rain. Though a large part of Gratiot had heavy rain July 24, and local showers Aug. 3, which gave great relief to corn and beans, the ground is again very dry, the weather hot. Corn has made rapid growth and is in full tassel and silk, some early planted being large enough for table use. Oats are practically all secured except some few that are waiting for the threshing machine. Reports from some show a good yield ranging from 35 to 63 bu. per acre, 40 to 50 bu. being a conservative estimate. Wheat yield is good quality generally. (Continued on page 139).

ANY PICNICS?

We will be glad to publish the dates and place to be held of any picnics or farmers' gatherings of any kind, if those interested will let us know.

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Stock Farm in Northern Michigan. 200 acres hard wood land, all under cultivation. Buildings, barns, silos, etc., all new and modern. Complete equipment farm machinery. Stock includes small herd of pure bred Herefords; a large number of grades, 2 work teams, etc. If desired, land adjacent can be secured at a nominal price making this especially desirable for sheep raising. Will sell for less than half inventory value and on very easy terms. An unusual opportunity. Write to owner for full particulars and inventory. LOUIS M. SANDS, Manistee, Michigan.

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455 Atlantic National Bank Bldg., Jacksonville, Florida.

MARKETS

DETROIT WHOLESALE MARKETS.

August 17, 1910.

Grains and Seeds.

Wheat.—The present strength of the wheat deal comes from Europe where it is reported that Russia and France have a short crop. To confirm these reports foreigners have been buying quite liberally on American markets—several cargoes having been taken on Tuesday for French consumption. Here all the factors that go to influence the trade appear to be bearish, for the time being—the shortage in spring wheat being overlooked on the boards of trade. And the cause of the bearishness among brokers is the continued heavy selling by farmers. Quite different is the situation from a year ago when a conservative feeling seemed to hold farmers from dumping their wheat; but it appears from the lightening up of receipts at elevators in the more southern sections that selling was largely by those who needed the money and took advantage of the rather satisfactory prices to get it. The heavy selling at present is farther to the north where threshing is under full swing. There the wagons are coming to the elevators in such numbers that the falling off to the south has not pulled receipts below what they have been for past weeks. Millers are just ordinarily busy this week and are not demanding wheat urgently. The visibly supply increased nearly 4,000,000 bushels. A year ago the price for No. 2 red wheat was \$1.07½. Quotations for the past week are:

	No. 2 Red.	No. 1 White.	Sept.	Dec.
Thursday	1.03½	1.02½	1.04½	1.07½
Friday	1.04	1.03	1.04½	1.08½
Saturday	1.04½	1.03½	1.04½	1.08½
Monday	1.02½	1.01½	1.03½	1.07½
Tuesday	1.02½	1.01½	1.03½	1.07½
Wednesday	1.02½	1.01½	1.02½	1.06½

Corn.—Figured closely the average price for corn is improved a fraction since last issue. Selling is not so liberal as a year ago when farmers were unloading their surplus on the markets. They either have no corn to sell now, or they believe the present level of prices are not attractive enough, when the possibility of getting feeders at prevailing values is considered. The growing crop conditions are bearish, bountiful rains have fallen over large sections of the corn belt and the promising yield is improved by the moisture. A year ago the price for No. 3 corn was 71½¢ per bu. Quotations for the past week are:

	No. 2 Mixed.	No. 2 Yellow.
Thursday	67	69½
Friday	67½	69½
Saturday	67	69
Monday	66½	68½
Tuesday	66½	68½
Wednesday	66½	68½

Oats.—The supply of oats is liberal at present. Offerings are large. The yield is excellent in isolated places, but more reports indicate lighter than ordinary return from the acreage. There is a liberal increase in the visible supply. One year ago the price for standard oats was 40½¢ per bu. Quotations for the week are:

	Standard.	Sept.
Thursday	37½	37½
Friday	38	38
Saturday	38	38
Monday	37½	37½
Tuesday	37	37
Wednesday	37	37

Beans.—Michigan beans are suffering for moisture. Many fields are drying up while others are not filling well for want of water. The market keeps strong. The local trade is doing but little business. Quotations are as follows:

	Cash.	Oct.
Thursday	\$2.35	\$2.10
Friday	2.35	2.10
Saturday	2.35	2.10
Monday	2.35	2.10
Tuesday	2.35	2.10
Wednesday	2.35	2.10

Cloverseed.—The quotations have held firm at the advance made last week and crop conditions seem to support the strong tone of the deal. Dry weather is the chief factor in the crop calculations. Quotations for the week are:

	Prime Spot.	Oct.
Thursday	\$8.50	\$8.60
Friday	8.50	8.60
Saturday	8.50	8.60
Monday	8.40	8.50
Tuesday	8.50	8.60
Wednesday	8.60	8.70

Rye.—The market is steady. The nominal quotation is 74¢ per bu., which is the price of a week ago.

Visible Supply of Grains.

	This week.	Last week.
Wheat	18,582,000	14,798,000
Corn	3,017,000	2,398,000
Oats	4,428,000	2,645,000
Rye	221,000	231,000
Barley	884,000	741,000

Flour, Feed, Provisions, Etc.

Flour.—The flour trade is steady at last week's figures. Millers are moderately busy. Quotations are:

Clear	\$4.60
Straight	4.80
Patent Michigan	5.10
Ordinary Patent	4.90

Hay and Straw.—The markets are not responding to the firm feeling in the rural districts on the hay situation. Trade is, however, called firm at good figures. Quotations on baled hay in car lots f. o. b. Detroit are: No. 1 timothy, \$16@16.50; No. 2 timothy, \$15@15.50; clover, mixed, \$15@15.50; rye straw, \$7@7.50; wheat and oat straw, \$6.50@7 per ton.

Feed.—All grades steady with last week. Carlot prices on track: Bran, \$23 per ton; coarse middlings, \$24; fine middlings,

\$27; cracked corn, \$27; coarse corn meal, \$27; corn and oat chop, \$24 per ton.

Potatoes.—The yield promises to be limited and already there is complaint of shortage in supply. New potatoes are quoted at \$2.75 per bbl.

Hides.—Steady. No. 1 cured, 10¢; No. 1 green, 8¢; No. 1 cured bulls, 9¢; No. 1 green bulls, 7¢; No. 1 cured veal kip, 10½¢; No. 1 green veal kip, 9¢; No. 1 cured calf, 14½¢; No. 2 kip and calf, 13¢; No. 1 horeskins, \$3.50; No. 2 horeskins, \$2.50; sheepskins, as to amount of wool, 25¢@75¢.

Provisions.—Mess pork, \$23; family pork, \$23.50@25; medium clear, \$22.50@23.50; smoked hams, 16¢; dry salted briskets, 14¢; shoulders, 14¢; picnic hams, 13¢; bacon, 17@19¢; lard in tierces, 12½¢; kettle rendered, 13½¢ per lb.

Dairy and Poultry Products.

Butter.—The August pastures are not producing a large flow of milk and the decrease in the butter output has held the market firm at the increased values put upon butter last week. Dairy offerings are marked down a cent, presumably more because of inferior quality. The quotations are: Extra creamery, 29¢; firsts, do., 28¢; dairy, 22¢; packing stock, 21¢ per lb.

Eggs.—Hens are not laying so liberally because of the arrival of moulting season, and egg quotations are increased from a week ago. The demand keeps up well. Fresh eggs, case count, cases included, are quoted at 18½¢ per doz.

Poultry.—No changes have occurred in the quotations for poultry but dealers are looking forward to heavier receipts which they believe will not be met by a corresponding improvement in demand and consequently predict lower values. The high prices asked for other meats will no doubt check any large decline. Broilers are steady at 17@18¢; hens unchanged at 15½¢@16¢; roosters and stags still 10¢; ducks continue at 14@15¢; also geese at 11@12¢ and turkeys at 18¢ per lb.

Cheese.—Michigan, late made, 15¢; Michigan, fall made, 17½@18¢; York state, 18@18½¢; limburger, old, 17@18¢; Swiss, domestic block, 23@24¢; cream brick, 16@16½¢.

Fruits and Vegetables.

Apples.—There is a fairly good supply of early fall apples. Duchess' are quoted at \$3@3.50 per bbl., and common stock at \$2@3.

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

Blackberries.—Market dull and steady. Selling at \$3.50@4 per bu.

Huckleberries.—Higher and scarce. Quoted at \$4@4.25 per bu.

Peaches.—Of fair quality. One-fifth bushel basket quoted at 25¢.

Vegetables.—Beets, 75¢ per bu; carrots, 50¢ per bu; cucumbers, 25@35¢; per doz; eggplant, \$1.25@1.50 per doz; green beans, 75¢ hamper; green peas, 75¢ bu; green onions, 10@12¢ doz; head lettuce, 75@90¢ per bu; mint, 25¢ per doz; parsley, 20@25¢ per doz; radishes, 15¢ per doz; spinach, 65¢ per bu; turnips, 40¢ per doz; watercress, 20@25¢ per doz; wax beans, 75¢ bu; pieplant, 20¢ per dozen.

OTHER MARKETS.

Grand Rapids.

Fruit sold as follows on the city market Tuesday morning: Peaches, \$150@1.75; apples, \$1@1.25; plums, \$1.80@2; blackberries, \$2.25; pears, \$1@1.25. Early potatoes are bringing 90¢@1. If the northern Michigan potato sections get rain within the next two weeks a big yield of late potatoes is predicted. The crop is looking fine. Vegetables range as follows on the city market: Butter beans, 65¢ bu; stringbeans, 60¢; green corn, 15@18¢ doz; celery, 15¢; cucumbers, 35@40¢; squash, \$1.50 bu; cabbage, 75@85¢; tomatoes, \$2@2.50; head lettuce, \$1; cauliflower, \$1.75; beets, 10¢ doz; silver skin onions, 15¢; osage melons, \$2.25 bu. Some sales of dressed hogs at 12½¢ are reported this week. Spring chickens are up ¼¢, prices on live poultry delivered being as follows: Spring chickens, 14¢; fowl, 12¢; ducks, 12¢; turkeys, 13¢; geese, 7¢. Eggs are steady at 17@17½¢. Dairy butter is unchanged at 23¢; creamery at 29¢. The wheat market is 2¢ higher, the mills paying 96¢ for No. 2 red and 94¢ for No. 1 white.

New York.

Butter.—Prices fractionally higher with market firm at the advance. Creamery specials quoted at 30¢; extras, 29¢; thirds to firsts, 24@28¢.

Eggs.—Market firm. Nearby eggs are quoted at 25@28¢; fresh gathered extras, 21½@25¢; firsts, 20@21¢ per doz.

Poultry.—Market irregular and uncertain. Live quoted as follows: Western broilers, 16½@18½¢; fowls, 14@17½¢ lb.

Chicago.

Wheat.—No. 2 red, \$1.01@1.02½; September, \$1.02@1.02½; December, \$1.05½@1.05¾¢ bu.

Corn.—No. 2 mixed, 64½¢; September, 63½¢; December, 61½@61¾¢.

Oats.—No. 3 white, 35¼@35½¢; September, 36¼¢; December, 38¼@38½¢.

Butter.—Demand less urgent, but supplies are small and prices hold steady. Quotations are: Creameries, 25@29¢; dairies, 23@26¢.

Eggs.—Supplies continue inadequate for requirements and storage stock has to be drawn upon. Prices are strongly held. Quotations are: Prime firsts, 20¢; firsts, 18¢; at mark, cases included, 10@14¢ doz.

Hay and Straw.—Market steady with an advance of \$1 per ton on choice grades. Quotations are: Choice timothy, \$22@22.50; No. 1 timothy, \$20.50@21; No. 2 do., and No. 1 mixed, \$19@20; No. 3 do., and No. 2 mixed, \$15.50@18; rye straw, \$9@10.50; oat straw, \$7.50@8; wheat straw, \$6.50@7.50.

Beans.—Values are well maintained and quotations have not changed from last week. Choice hand-picked are quoted at \$2.48@2.52; fair to good, \$2.45@2.47; red kidneys, \$3.75@4.25 per bu.

Potatoes.—The demand is slow and the

market has an easy undertone, although values are higher than a week ago. Quotations are: Choice to fancy new, 88@90¢ per bu; fair to good, 85@87¢.

Wool.—Trade is fairly active and prices are held firm. Unwashed fleeces from all bright wool sections are quoted as follows: Fine heavy, 13@15¢; fine delaine, 20@22¢; fine medium, 22@24¢; medium, 23@25¢.

Boston.

Wool.—The fact that less trading occurred last week is not indicative of the true condition of the trade, for all dealers recognize that a stronger market is now prevailing. An active demand is reaching out for nearly all grades and prices are stable, with dealers firmly believing that better values are to come shortly. The quotation for the leading domestic fleeces—Delaine washed, 34¢; XX, 50¢; fine unmerchandise, 24@25¢; ½-blood, combing, 28@29¢; ¾-blood combing, 28@29¢; ¼-blood combing, 27@28¢; delaine unwashed, 26@27½¢; fine unwashed, 20@21¢. Michigan, Wisconsin and New York fleeces—Fine unwashed, 19@20¢; delaine unwashed, 26@27¢; ½-blood unwashed, 27@28¢; ¾-blood unwashed, 27@29¢. Kentucky, Indiana and Missouri—¾-blood, 28@29¢; ¼-blood, 27@28¢.

Clover.

Clover Seed.—Clover seed closed strong and 20¢ higher Tuesday, while alsike held steady. Closing quotations were: Cash, \$8.80; October, \$8.80; alsike cash, \$8.50; August, \$8.50.

Elgin.

Butter.—The butter trade is firm at 29¢, which is the quotation for last week. The output for the week amounted to 378,300 lbs., compared with 918,000 lbs. for the previous week.

THE LIVE STOCK MARKETS.

Buffalo.

August 15, 1910.

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

Receipts of stock here today as follows: Cattle, 175 cars; hogs, 12,480; sheep and lambs, 9,000; calves, 1,250.

With 175 loads of cattle on our market here today, and with 30,000 reported in Chicago, all grades of cattle sold from 15¢@25¢ per hundred weight lower. Market was active at the decline, and at the close about everything was sold.

We quote: Best 1,300 to 1,500-lb. steers, \$7.25@7.60; good prime 1,200 to 1,300-lb. steers, \$6.75@7.15; best 1,100 to 1,200-lb. shipping steers, \$6.25@6.75; medium butcher steers, 1,000 to 1,100 lbs., \$5.25@5.75; light butcher steers, \$4.75@5.10; best fat cows, \$4.75@5.10; fair to good cows, \$3.75@4.40; common to medium do., \$2.75@3.50; trimmers, \$2.25@2.75; best fat heifers, \$5.50@6; good do., \$4.25@5.25; fair to good do., \$4@4.40; stock heifers, \$3.75@4; best feeding steers, \$4.75@5; medium to good do., \$4@4.25; stockers, all grades, \$3.50@4; best bulls, \$5.25@5.50; bologna bulls, \$3.75@4.25; light thin bulls, \$3.50@3.75; best milkers and springers, \$5.50@6.50; common to good, \$2.50@3.50.

With 78 loads of hogs on our market, and 30,000 reported in Chicago, and lower prices, weather very warm here, made the packers very independent, as they were well stocked with hogs from purchases of the last of last week, and eastern orders were quite limited. Market opened 10¢@15¢ lower on mixed, mediums and heavies, and from 20¢@40¢ on yorkers, lights and pigs. Closing steady at the opening, with a good clearance for all that was yarded in time for the market.

We quote: Mixed and heavies, and heavy mixed, \$8.90@9; lighter mediums and yorkers, \$9@9.25; good 200 to 225-lb. average, \$9.05; pigs, \$9.20@9.25; roughs, \$7.30@7.40; stags, \$6@6.50.

The lamb market opened slow and about half a dollar lower than last Monday; most of the best lambs selling at \$6.75@6.85. Yearling lambs, \$5.50@5.75. Look for about steady prices balance of week. Sheep were steady today, and the prospects are for about steady prices balance of week.

We quote: Spring lambs, \$6.65@6.85; wethers, \$4.75@5.25; cull sheep, \$2.50@3.50; bucks, \$2.50@3.25; yearlings, \$5.50@5.75; heavy ewes, \$3.90@4; handy ewes, \$4.25@4.50; veals, choice to extra, \$9@9.25; fair to good do., \$7.50@8.50; heavy calves, \$6@7.

Chicago.

August 15, 1910.

Received today 30,000 32,000 30,000
Same day last year... 20,586 25,662 24,166
Received last week... 68,070 85,519 131,235
Same week last year... 53,832 102,448 86,469

Demand for good to choice native steers continued strong at the start this week in spite of general receipts of 30,000 on Monday, which was largest one day's arrivals thus far this season. Quota of finished classes was short, however, biggest share of the run being medium to pretty good, along with grass-fed, plain quality classes. The latter sold at 10@15¢ decline from last week's finish, competition from a run of 6,500 western range cattle being a bearish factor in the market for natives of value below \$7. Prime steers sold up to \$3.25, averaging 1,555 lbs., while other 1,550-lb. beeves made \$8 but there was a slim supply good enough to land above \$7.75 and biggest quota of good 1,200 to 1,350-lb. steers brought \$6.85@7.50 with the medium to good killers at \$6.10@6.75, while grass-fed contingent averaging 900 to 1,200 lbs. sold at \$5@6. Feeding cattle, in big supply, went at 10@20¢ decline from last week, selling largely at \$4@4.35 with common stockers down to \$3@3.35. Western range steers were steady to firm sale at \$5@6.50 for plain to choice while range feeders made \$4@5.20. Native cows and heifers sold at 10@15¢ decline and bulls were 10@20¢ lower while the calf deal

was weak to 25¢ off from last week's closing.

In the hog trade there was a liberal supply of 3,200 and the market was 5¢@10¢ lower than last week's closing, prime lights topping at \$8.95, choice heavy at \$8.50 and choice light butchers at \$8.90. Mixed packing grades made \$7.75@8.10, and poor to good heavy packing, \$7.50@8, with fair to good medium weight butcher hogs at \$8.20@8.40, and plain to good hogs at \$8.50@9.

The same old keen country demand existed for feeding sheep and lambs and despite big receipts of 30,000 market for feeders and fat stock held at strong rates. Prime native lambs topped at \$6.75 and rangers sold up to \$6.90, with best feeding lambs at \$6.60@6.65 and a big crop around \$6.50. Wethers went at \$4@4.40 and ewes up to \$4.25 while decent breeding ewes sold at \$4.25@4.75 and fat Idaho yearlings up to \$5.50.

As a result of sensational price advances in the previous week, market last week was badly overcrowded with native cattle, and a slump of 25¢@35¢ was forced before the close. In some instances medium to good steers showed a 40¢@50¢ decline from the high point the week before. The increase in receipts totaled 13,000, and was made up entirely of native stock, range supplies being only of the volume which arrived the week before. Iowa and South Dakota feeders continued to ship freely of plain and medium grass-fed steers, the short pastures there making the feed question a serious one. Few are in a position to adopt winter feeding methods and shovel out corn freely. The principal reason is that old corn is scarce and there is not much of a disposition to go into the market and buy it at prevailing rates. The decline even extended to prime steers, these closing on a basis of \$8@8.25, while early in the week, and also the week previous tops landed up to \$8.50. Steers hardest hit were those selling in the \$6.75@7.25 notch, which came in competition with the good range beeves that killers bought relatively much cheaper. Beef steers sold chiefly at \$5.50@7.40 for medium to good, and bulk of good to choice made \$7.40@7.85, while the grassers of fair to good grade went at \$5.85@6.35 and common light kinds down to \$5. Butcher cattle declined 15¢@25¢. Prime heifers reached \$7 but it was largely a \$3.50@4.50 market for grass-fed cows and heifers which formed the biggest share of supplies. Canners and cutters went at \$2@3.25. Bulls sold 25¢@35¢ lower at \$3@5. Calves had a good demand and prices held firm at \$7.50@8.50 for fair to choice. Western range steers of choice grade sold up to \$7.25. Next best price was \$6.70, while a few lots made \$6@6.60, but the biggest share of rangers brought \$5@5.50. Stockers and feeder trade was largest of the year. Enormous supplies are coming from the burned-up western pastures and last week the market broke another 15¢@25¢ for all excepting best grades. Over 800 car loads of feeder and stock steers went to the country last week, of which 600 loads were bought by feeders east of Chicago. It was a \$4@5.75 market for common to good 700 to 1,000-lb. feeders, while the poor to good stock steers went at \$3@4.15.

After selling wide apart for weeks past common to good heavy hogs now bring a price basis nearer to that current for light and butcher weights. Market is drawing out a better demand from the big local packers while there is also broader inquiry on shipping account. Heavy packing classes scored 25¢ advance in the past week while the light and butcher grades sold only 10¢ higher. Receipts continue light in volume but there is a much heavier class of hogs coming now than in nearly three years past and what the receipts lack in numbers they make up in pounds of pork. Average weight now is around 255 lbs., a gain of 6 lbs. over the previous week, while 30 lbs. heavier than a year ago. This is good evidence that feeders are converting corn into pork, and even though the prices are many points under best range this season, there is still a much better profit in hog feeding than in recent years. A good crop of spring pigs is maturing and the trade expects some considerable increase in receipts during the fall months but until then indications point to continued light runs. Market closed Saturday with prime light weights at \$8.90@9, choice light butchers at \$8.75@8.90 and fair to good medium weights at \$8.15@8.40. Heavy shipping went at \$8.45@8.65 while heavy packing grades sold at \$7.55@8.10, and pigs at \$8.40@9.

Enormous marketings of sheep are coming from western ranges, where feed is very short and as a result a big percentage of the supply comprises stuff which goes out to eastern farmers to be fattened. Last week Chicago received 130,000 head and nearly 45,000 of these were feeding sheep and lambs. Thus far in the season there have been 75,000 more feeders sent to Michigan, Indiana and Ohio farmers than last year. Under pressure of the big receipts prices are naturally showing further weakness and in the past week lambs declined 10¢@25¢ while mutton values were off 10¢@15¢. Prime range lambs for slaughter sold up to \$6.90, and best natives at \$6.75 while most of the fat range and native lambs made \$6.50@6.75 with a fair class for slaughter at \$6@6.25 and the culls down to \$4.50. Feeders' keen demands for choice thin range lambs caused them to pay \$6.60 for 60-lb. Idahos while few feeding lambs were bought below \$6.25. Feeding yearlings cost \$4.75@5.55, and breeding ewes \$4@5.75 while poor to good feeding wethers made \$3.75@4.10. Fat wethers sold at \$4@4.35, best yearlings at \$5.65, poor to good ewes at \$3.60@4.25 and culls down to \$2.25.

Wisconsin pastures are so dry that it is a hard matter to provide feed for dairy stock alone and as a result there are heavy shipments of cows, heifers and bulls which are not steady revenue producers on the farm.

THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

August 18, 1910.

Cattle.

Receipts, 905. All grades 10@15c lower than last Thursday.

We quote: Steers and heifers, 1,000 to 1,200, \$5; steers and heifers, 800 to 1,000, \$4.50; grass steers and heifers that are fat, 800 to 1,000, \$4.50; grass steers and heifers that are fat, 500 to 700, \$4; choice fat cows, \$4.50; good fat cows, \$4; common cows, \$3.50; canners, \$2.50; choice heavy bulls, \$3.75; fair to good hognags, \$3.50; stock bulls, \$3.50; choice feeding steers, 800 to 1,000, \$4.25; fair feeding steers, 800 to 1,000, \$3.50; choice stockers, 500 to 700, \$3.50; fair stockers, 500 to 700, \$3.25; stock heifers, \$3.25; milkers, large, young, medium age, \$4.50; common milkers, \$2.50.

Haley & M. sold Regan 8 butchers av 552 at \$3.75, 1 bull weighing 400 at \$3.25; to Mich. B. Co. 2 do av 1,300 at \$4.15, 1 do weighing 1,040 at \$3.85; to Kamman B. Co. 1 cow weighing 1,110 at \$3.75, 5 steers av 980 at \$5, 4 do av 705 at \$4, 2 cows av 1,140 at \$3.75; to Parker, W. & Co. 6 steers av 933 at \$5; to Starrs 1 do weighing 950 at \$4.50, 1 do weighing 550 at \$3.75, 1 cow weighing 690 at \$3.85; to Schuman 2 steers av 650 at \$4, 3 do av 600 at \$4.10, 1 bull weighing 670 at \$3.50, 1 do weighing 1,050 at \$3.90; to Sullivan P. Co. 20 butchers av 820 at \$4.25; to Bresnahan 13 do av 601 at \$3.75; to Kamman 2 cows av 1,050 at \$3.75, 4 do av 960 at \$3.85, 1 do weighing 1,200 at \$3.75; to LaDelt 1 bull weighing 850 at \$4; to Regan 9 heifers av 555 at \$3.60.

Spicer & R. sold Mich. B. Co. 30 butchers av 782 at \$4.25, 32 do av 785 at \$4.25, 1 bull weighing 1,130 at \$4, 1 heifer weighing 770 at \$4.25; to Breitenback Bros. 30 butchers av 831 at \$4.40; to Goodwin 8 do av 760 at \$4.25; to Fry 20 do av 720 at \$4.25; to Lachalt 10 do av 887 at \$4.40; to Sullivan P. Co. 1 cow weighing 850 at \$3.50; to Laboe 12 heifers av 723 at \$4.25; to Heinrich 5 butchers av 884 at \$4.50, 8 do av 650 at \$4.60, 10 steers av 908 at \$5; to Breitenback Bros. 2 bulls av 875 at \$3.50, 1 do weighing 990 at \$3.75; to Bresnahan 8 heifers av 521 at \$3.60; to Sullivan P. Co. 7 cows av 909 at \$3.75, 2 do av 925 at \$2.75, 3 heifers av 783 at \$3.25, 1 bull weighing 1,300 at \$4; to Laboe 16 butchers av 860 at \$4.15; to Schrader 9 do av 802 at \$4.40.

Bishop, B. & H. sold Mich. B. Co. 7 heifers av 611 at \$3.75, 11 cows av 990 at \$3.50, 1 do weighing 860 at \$3, 10 butchers av 728 at \$4.25, 2 do av 735 at \$4; to Breitenback Bros. 4 cows av 767 at \$3, 3 do av 1,123 at \$4; to Regan 12 butchers av 626 at \$3.65; to Bresnahan 4 cows av 975 at \$2.50, 1 canner weighing 830 at \$2, 2 do av 530 at \$2; to E. Johnson 16 stockers av 481 at \$3.40; to Peabody 10 feeders av 830 at \$4.25; to Sullivan P. Co. 1 cow weighing 900 at \$2.50, 3 do av 1,043 at \$3, 8 butchers av 1,100 at \$4.25, 2 cows av 735 at \$2.50, 1 do weighing 1,100 at \$3, 2 do av 400 at \$3, 2 do av 1,115 at \$4, 3 bulls av 1,200 at \$3.85, 7 butchers av 871 at \$4.50, 1 bull weighing 1,210 at \$4, 3 bulls av 883 at \$3.10; to White 8 feeders av 840 at \$4, 3 do av 733 at \$4, 3 do av 716 at \$3.85, 1 do weighing 800 at \$4.50; to Kamman 2 cows av 1,025 at \$3, 4 do av 955 at \$3.60, 13 steers av 950 at \$4.40, 3 cows av 873 at \$3.60; to Bresnahan 9 cows av 833 at \$2.50; to Goose 5 butchers av 546 at \$3.

Roe Com. Co. sold Fry 1 heifer weighing 730 at \$4.25; to Mich. B. Co. 1 cow weighing 1,050 at \$3.50, 26 steers av 862 at \$4.50; to Hammond, S. & Co. 26 butchers av 793 at \$4, 2 do av 865 at \$4, 5 steers av 964 at \$5, 9 butchers av 735 at \$4.25, 2 cows av 675 at \$2.50, 2 do av 940 at \$3, 2 do av 1,050 at \$4, 1 bull weighing 1,350 at \$3.75; to Regan 3 butchers av 533 at \$3.50, 1 heifer weighing 470 at \$3.50; to Marx 3 do av 943 at \$4.60.

H. N. Johnson sold Friendly 4 stockers av 537 at \$4.

Wagner sold Newton B. Co. 3 heifers av 770 at \$4.50, 2 cow and steers av 1,025 at \$4.

H. N. Johnson sold Regan 3 heifers av 577 at \$3.90.

McLachlin sold Haley 3 stockers av 593 at \$3.75.

Veal Calves.

Receipts, 618.

Best grades 75c@1, heavies \$1.50@2 lower than last Thursday.

Best, \$3.50@9; others, \$3@7; milch cows and springers steady.

Haley & M. sold Newton B. Co. 5 av 155 at \$3.50; to Parker, W. & Co. 6 av 230 at \$5; to Brant 9 av 140 at \$7, 5 av 145 at \$8.25.

Wagner sold Newton B. Co. 6 av 165 at \$8.50.

H. N. Johnson sold Parker, W. & Co. 7 av 150 at \$8.50.

Spicer & R. sold Mich. B. Co. 1 weighing 190 at \$6, 11 av 170 at \$8.50; to Parker, W. & Co. 10 av 164 at \$6.

Roe Com. Co. sold Goose 10 av 178 at \$5.50; to Hammond, S. & Co. 19 av 170 at \$8.25, 1 weighing 140 at \$6.50.

Bishop, B. & H. sold Mich. B. Co. 5 av 140 at \$3.75, 2 av 220 at \$6.50, 11 av 155 at \$3.75, 5 av 160 at \$8.25; to Parker, W. & Co. 10 av 135 at \$8.25; to McGuire 2 av 145 at \$8.75, 1 weighing 200 at \$5; to Burnstine 7 av 155 at \$9, 2 av 130 at \$7, 5 av 155 at \$8.50; to McGuire 14 av 150 at \$8.75, 1 weighing 180 at \$7.50, 3 av 145 at \$8.75; to Parker, W. & Co. 6 av 130 at \$8.50.

Sheep and Lambs.

Receipts, 3,506. Market 50@75c lower than last week at opening.

Best lambs, \$6; fair to good lambs, \$5@5.75; light to common lambs, \$4.50@5; fair to good sheep, \$3.50@4; culls and common, \$2.50@3.

Roe Com. Co. sold Hammond, S. & Co. 8 sheep av 105 at \$3.75, 45 lambs av 67 at \$5.75; to Barlage 41 do av 65 at \$5.50; to Newton B. Co. 33 do av 70 at \$5.50; to Young 34 do av 60 at \$5.50; to Harland 44 do av 75 at \$6.

H. N. Johnson sold Mich. B. Co. 25 lambs av 60 at \$6.

Ardner sold same 17 do av 75 at \$6.

H. N. Johnson sold same 10 do av 68 at \$5.75, 20 sheep av 110 at \$3.50.

Spicer & R. sold Parker, W. & Co. 19 sheep av 115 at \$3.50; to Stocker 30 lambs av 60 at \$5.60; to Hammond, S. & Co. 36 do av 75 at \$5.80; to Pakes 23 do av 70 at \$6, 15 do av 80 at \$6, 8 sheep av 110 at \$4.25, 4 do av 100 at \$4, 52 lambs av 82 at \$6; to Mich. B. Co. 53 do av 60 at \$5.65, 9 sheep av 120 at \$3.50.

Haley & M. sold Sullivan P. Co. 28 sheep av 140 at \$3.75; to Mich. B. Co. 60 lambs av 65 at \$6; to Sullivan P. Co. 43 do av 55 at \$5.25.

Wagner sold Newton B. Co. 4 sheep av 110 at \$4, 58 lambs av 80 at \$6.25.

Lovewell sold same 36 do av 67 at \$5.50, 9 sheep av 85 at \$3.

H. N. Johnson sold Hammond, S. & Co. 62 lambs av 80 at \$5.75.

Belheimer sold same 15 do av 65 at \$5.50, 2 sheep av 115 at \$3.75.

Groff sold Thompson 10 lambs av 64 at \$5.70.

Robb sold Young 25 lambs av 77 at \$5.

Bishop, B. & H. sold Sullivan P. Co. 44 lambs av 80 at \$5.85, 58 do av 75 at \$6.25, 10 do av 58 at \$5, 19 do av 73 at \$5.75; to Mich. B. Co. 46 sheep av 100 at \$4, 18 do av 63 at \$3.75; to Hammond, S. & Co. 27 do av 115 at \$4, 20 lambs av 70 at \$5.85; to Pakes 47 do av 73 at \$5.75, 47 do av 70 at \$5.75; to Fitzpatrick Bros. 44 sheep av 75 at \$2.80, 3 do av 100 at \$4, 8 do av 130 at \$3.50, 71 do av 100 at \$3.75, 66 lambs av 80 at \$6.20; to Mich. B. Co. 84 do av 67 at \$5.70; to Smith 13 feeders av 70 at \$6, 59 do av 70 at \$6, 43 do av 65 at \$5.75, 63 do av 63 at \$5.75; to Fitzpatrick Bros. 54 lambs av 77 at \$5.60, 3 sheep av 95 at \$4.

Hogs.

Receipts, 1,980. Market steady at last Thursday's prices.

Range of prices: Light to good butchers, \$8.90; pigs, \$8.90@9; light yorkers, \$8.75@8.85; heavy, \$8.50; stags, 1/2 off.

Bishop, B. & H. sold Hammond, S. & Co. 545 av 180 at \$8.90, 344 av 165 at \$9, 162 av 200 at \$8.75, 132 av 215 at \$8.85, 40 av 275 at \$8.50, 61 av 250 at \$8.60, 61 av 220 at \$8.65.

Roe Com. Co. sold Parker, W. & Co. 144 av 190 at \$9.

Spicer & R. sold same 82 av 190 at \$9, 54 av 200 at \$8.90.

Haley & M. sold same 125 av 175 at \$9.

Friday's Market.

August 12, 1910.

Cattle.

Receipts this week, 797; last week, 595; market dull at Thursday's prices. Best steers and heifers, \$5.50@6; steers and heifers, 1,000 to 1,200 lbs., \$5@5.25; steers and heifers, 800 to 1,000 lbs., \$4.50@5; grass steers and heifers that are fat, 800 to 1,000 lbs., \$4.50@5; do, 500 to 700 lbs., \$3.50@4.50; choice fat cows, \$4.50@4.75; good fat cows, \$3.75@4.25; common cows, \$3.25@3.50; canners, \$2.25@2.75; choice heavy bulls, \$4.25@4.50; fair to good hognags, \$3.50@4; stock bulls, \$3@3.50; choice feeding steers, 800 to 1,000 lbs., \$4.25@4.85; fair feeding steers, \$4@4.25; choice stockers, 500 to 700 lbs., \$4@4.25; fair stockers, 500 to 700 lbs., \$3.50@4; stock heifers, \$3@3.50; milkers, large, young, medium age, \$4.50@65; common milkers, \$2.50@35.

Receipts this week, 3,262; last week, 1,678. Market 25@50c lower than the opening Thursday. Best lambs, \$6.25; fair lambs, \$5.50@6; light to common lambs, \$5@5.50; fair to good sheep, \$4@4.25; culls and common, \$3.50@4.

Hogs.

Receipts this week, 3,281; last week, 1,774. Market 25c lower for heavy; other grades steady. Light to good butchers, \$8.80@9; pigs, \$9; light yorkers, \$8.80@8.85; heavy, \$8@8.50; stags one-third off.

CROP AND MARKET NOTES.

(Continued from page 137).

some getting as high as 45 bu. per acre and 30 to 35 bu. for the most part. Apples and fruit of all kinds are scarce. Some have begun plowing for wheat but find it very hard and lumpy. Hogs are scarce, some went to market at 8c this week. New meadows came up very quickly after mowing, but old pastures are sere. Beans have a good growth of straw and the late rain in July has caused a good setting of pods, but it seems probable that they will not develop well unless relief comes soon.

Hardin Co., Ohio, Aug. 8.—Continued dry weather with us. Farmers are busy threshing grain. Oats a fair crop, making from 20 to 50 bu. per acre; some wheat as high as 32 bu. per acre. Corn is short on the high land but the black ground corn is doing well considering the dry weather. Grasshoppers the worst in years, eating up corn; some cinch bugs. Many are feeding their cattle. Pasture all gone and the hay crop just medium. Oats selling at 32c per bu.; rye, 65c; hay, 10; wheat, 90@11 per bu.

Milwaukee Co., Wis., Aug. 7.—We had a good soaking rain of almost an inch, which the soil took up like a dry sponge. Just three weeks later on Aug. 3, we had another nice shower of about a quarter of an inch. The weather has been fair and reasonably warm with cool nights. Crops where well tilled have stood the drought quite well up to now. Hay all harvested in fine shape, one-half to two-thirds of a crop. Wheat, rye and oats harvested. Threshing well under way. Oats yield

35 to 50 bu. per acre. Wheat 20 to 30 bu. Rye almost the same. Late potatoes looking quite well where well cultivated and free from weeds and promise fair yield if we get good rains soon. Cabbage about 60 per cent of a crop. Grasshoppers are quite a plague in the southern and eastern part of the state and very destructive to tomatoes, cabbage and beets; in fact all tender green foliage is their goal. New seeding almost dried up, but freshened up with late shower. Milk getting very scarce, stock having been fed in barn for the last three weeks. Pastures bare. Select new timothy hay, \$22, and old \$25 per ton; wheat, \$1.12 in local markets. Corn laid by and with timely rains will yield a fair crop; setting ears now.

Eastern Oceana Co., Aug. 9.—Weather hot and dry. Corn and potatoes suffering for rain; pastures badly dried up; apples dropping badly and only a very light crop at that. Oat harvest completed but many farmers have not drawn their oats to the barn or stack as yet. Fat hogs and cattle very scarce, hardly enough to supply the local markets. Cattle, 3 1/2@4c; hogs, 8c; butter, 20c; eggs, 17c; green corn, 15c per doz; no potatoes in market.

Lucas Co., Ohio, Aug. 11.—The drought continues in this section and is having a telling effect on corn. Some fields are nearly ruined at this writing. The oat crop is all secured and some fields are threshed, yielding from 30 to 72 bu. per acre; wheat about 27 bu. Blackberries are drying up on the bushes and are selling at \$3@4 per bu.; huckleberries, \$3.50@4; potatoes, 50@75c per bu.; butter, dairy, 24c; eggs, 18c; tomatoes, \$1 per bu.; cabbage, \$1.50 per bbl. The hog market is a little stronger, the price ranging from \$3.30@9.40; cattle, \$4.50@5; sheep, \$4@4.50; spring lambs, \$6.50@7.

Jefferson Co., Ohio, Aug. 8.—We have had no rain since July 28 and then not much rain fell, but the wind storm put lots of corn down. We have had dry and windy weather which made everything dry. Today we had a little shower. Everything is needing a good rain. Corn is just started to ear. Farmers have all their oats hauled and are starting to thresh. Corn looks good in some places and some just the reverse. Corn, 80c; oats, 50c; butter, 30c.

Clinton Co., Ind., Aug. 3.—The month of July opened with showers and continued to rain as often as needed till after the 15th. Since then we have had dry weather, with the days hot and nights unusually cool for this time of year. First wheat was cut July fifth, and weather has been favorable for threshing. July rains helped out oats, and a fine yield of first-class oats is the result. Threshing is well in hand with oats yielding on an average of 50 to 65 bu. per acre. Wheat running from 12 to 18 bushels. Quality fair. July rains were too late to help early potatoes, which are almost a failure here. Poor prospects for late potatoes. Corn crop very uneven and spotted. Outlook, as compared with other years, is for about two-thirds of a crop, with a very large acreage. Gardens very poor on account of drought. Prospects for clover seed have never been better and the acreage is large. Some early threshed grains are marketed but not as freely as other years. Elevators paying 97c for new wheat and 36c for new oats. Pastures are drying up and short for this time of year.

VETERINARY

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

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

Nasal Catarrh—Stiffest.—We have a horse seven years old that worked until haying was over, being thin in flesh all the time, but hearty. He has done little or nothing since; has had a fair grain ration and is now quite plump. A few days ago he began to cough and later discharged from the nose. He eats very little grain, but plenty of hay. I also have a young colt that has a hard bunch in lower part of neck, that is movable and about the size of a walnut. What had better be done for it? R. C., Ithaca, Mich.—Your horse suffers from nasal catarrh and having some fever will not eat much grain until his temperature lowers to about the normal point. Give 1 dr. acetanilid, 2 drs. chlorate of potash and 1 dr. powdered opium at a dose in feed or as a drench three times a day. Open the skin and remove the little bunch—no danger in operating, and I forgot to say that nasal catarrh is not usually infectious.

Indigestion.—My 12-year-old mare bleats after each meal and especially after eating a belly full of grass. She breathes with some difficulty when the stomach is gorged. What sort of condition powder had I better use? A. F. B., Pine Grove, Mich.—Mix one part salicylic acid, four parts ginger and four parts charcoal and give a tablespoonful or two at a dose three times a day. He is perhaps overfed.

Swollen Glands—Chronic Cough.—Have a seven-year-old horse that caught a bad cold early last spring. His throat glands are swollen, he has coughed ever since and I am afraid he is taking heaves. H. C. B., Rovston, Mich.—Apply equal parts tincture iodine and camphorated oil to throat glands every day or two. Also give 1 dr. iodide potassium, 1 dr. powdered lobelia and 2 drs. muriate ammonia at a dose in feed three times a day. He should be fed no clover, nor musty fodder and very little bulky food.

Injured Thigh.—About six weeks ago two of my horses were running in pasture, the following morning one of them had an injured leg, a small wound on thigh midway between stifle and hock on outside of leg. The horse that we supposed kicked the other, wore mud calks and the wound discharges a thin watery fluid. I have applied carbolic acid and rain water, but the leg remains inflamed and the lameness increases and the discharge thickens. Our local Vet. has been treating him and he states that some sort of infection has made its way into the wound. I also called a second Vet. and he thought it a case of open joint and thought the horse might as well be destroyed, but suggested that we apply slaked lime which produced no good results. He is now being treated by a non-professional Vet. but shows very little improvement. The horse eats well, is in good spirits but is growing thin and weak. Before the straps were put on him there was no tenderness in the leg low down. E. E. T., Flint, Mich.—First of all I might say that I do not believe it a case of open joint, on account of the location of the wound, but the bone has perhaps been injured, possibly fractured, and there may be a small splinter of bone that should be removed and the rough surface of bone made smooth. If much pus is coming from wound apply peroxide hydrogen twice daily; ten minutes after each application inject with one part carbolic acid and 20 parts water. Also dust on equal parts boric acid, powdered alum and iodoform three times a day. He should be kept quiet, but I fail to understand how any mechanical appliance placed on the leg would be of much benefit to him.

Core in Wound.—I have two horses that have a hard dry scab on neck. Our local Vet. cut one out and left medicine to burn the others off, but it has failed. Now would you advise me to apply blue vitriol water made by dissolving a teaspoonful in a pint? This is a valuable pair of horses and as several horses have died in this locality with similar trouble, I hesitate to experiment on them. J. S., Oonodaga, Mich.—In my practice I much prefer to cut out all such bunches with a sharp knife and before doing so very often use a six per cent solution of cocaine which makes the operation painless and if not cut burn it with nitrate of silver once a day; to heal such wounds apply equal parts powdered alum and boric acid.

Breeding Two-Year-Old Fillies.—I have a well developed two-year-old filly that weighs 1,250 lbs., which I am anxious to develop into a brood mare of the best type. Would you advise me to breed her now and if so had I better mate her with a two-year-old or an older horse? R. A. W., Kingsley, Mich.—I have never approved of breeding two-year-old fillies, for I believe it interferes somewhat with them maturing early and reaching a point of development which they would have otherwise reached, had they not been used for breeding purposes so early. From a financial standpoint it will perhaps prove a profitable investment to breed her, but I doubt whether she will grow and develop as well and as quickly if she is not bred until early next spring.

Indigestion.—I have a three-year-old heifer that came fresh August 1, but had made very little bag and gives but a small quantity of milk. She is in good condition and gave some milk up to the time of calving. W. S. F., Battle Creek, Mich.—As your cow did well last year and shows no sickness now, I am inclined to believe that her digestion must not be good; therefore I suggest that you give her 1 oz. ground gentian, 1 oz. ginger, 1 dr. ground nux vomica and 1 oz. bicarbonate soda at a dose in feed two or three times a day.

Heifer Gives Bloody Milk.—I have a three-year-old heifer that gives bloody milk from one quarter of udder. She came fresh in April for the first time and all I have done for her is giving her turpentine in her feed, but this has produced no good results. W. A. D., Sharon, Mich.—Your heifer has perhaps bruised her udder. Dissolve 1/4 lb. of acetate of lead in a gallon of water, adding one pint tincture arnica and apply to udder two or three times a day. Avoid injuring the udder when you milk her.

Leucorrhoea.—A neighbor of ours bought a cow several weeks ago. The seller told him she had been dried on account of scarcity of feed. Later he changed his mind and commenced milking her again; that, he claimed, was done because he could not sell her for beef. Since our neighbor got her she has had good feed, and good care, but she has a vaginal discharge and strains a great deal which leads us to suppose that she had lost her calf and failed to clean properly. She is now giving six or seven quarts of milk twice a day. Is milk from this cow fit to use? She is a fine looking cow and I would like to know if I had better fatten her for beef. Mrs. W. S. L., Richmond, Mich.—First of all your cow should be cured before you attempt to fatten her. Dissolve 1 dr. permanganate potash in three quarts of water and wash out vagina, using this quantity at a time, after flushing her with a gallon or two of tepid water. These applications are most easily made through a small rubber tube and funnel. Give her 1 dr. of Beechwood creosote in a quart of water as a drench once a day. After the vaginal discharge ceases her milk can be used with safety and her flow should increase.

Impure Blood.—I am writing you concerning a yearling colt that has a great many small bunches in skin situated on different parts of body. I was under the impression that grass would have a good effect in purifying her blood, but it fails to make her well. W. J. P., Benzonia, Mich.—Give her 1 dr. Donovan's solution of arsenic at a dose in feed or water three times a day. The largest bunches should be painted with tincture iodine two or three times a week or else give the colt 1 dr. iodide of potassium daily for 20 days.

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

SOILING AND SILAGE FOR DRY SUMMERS.

The unusually dry summer has brought to the attention of dairymen the question of how best to meet the feed situation when there is a lack of moisture. Prof. G. C. Humphrey, a graduate of our Michigan agricultural college, and F. W. Woll, both of the University of Wisconsin, have made a study of the question with all the resources of that institution at hand, and have concluded that silage and soiling are the two methods best adapted to the northern states, for bridging the droughts. Following is what they have to say upon the matter:

The widespread drought during the past season has brought home to the farmers in all parts of the state the necessity of providing summer feed for their live stock, especially in case the available pastures are limited and dry up quickly during periods of drought. It has been demonstrated in dairy sections where silos have been put up and silage is available for summer feed that comparatively little difficulty is experienced in maintaining the milk flow or keeping the stock in a healthy and productive condition when silage is fed to supplement what little feed the dry pastures may furnish, and the past season which has proved such a hardship in many sections will doubtless cause a large number of silos to be built where the farmers have heretofore depended only on their pastures for summer feeding.

The system of feeding soiling crops to farm live stock affords another means of overcoming drought conditions and is to be recommended where there is no silo on the farm and it is not feasible to build one. An experiment is now being conducted at the experiment station at Madison, for the purpose of determining the relative value of corn silage and soiling crops for dairy cows. Corn silage put up last September is being fed to one lot of 12 cows and to a similar lot of cows a succession of green crops is being fed, viz., green clover, peas and oats, and a mixture of oats, peas and corn (succotash). Later on sweet corn, green sorghum and field corn will be fed as available, so that the cows will have some kind of green feed throughout the summer and will be independent of the pastures which furnish practically no feed in this section at the present time. So far as the experiment has progressed there has been little difference in the amount of the production of the cows, the silage having proved of slightly greater value in maintaining the production of the cows up to this time. The results obtained show, however, that the farmer who has either kind at his disposal may encounter a drought season without fear of its effect on his stock or on the production of his herd.

The feeding of either of these kinds of succulent feeds necessitates forthright and careful planning ahead and it is the special purpose of this article to call the attention of our farmers to this fact, so that another dry season may find them prepared by having a sufficient supply of green feed or silage on hand to feed their stock. If the farmer has a silo or can build one in time for this year's corn crop he should, if possible, arrange to leave a portion of the silage for summer feeding, but if no silo is available he should plan to grow soiling crops next season that will enable him to carry his stock over in excellent condition through the trying summer months.

The crops mentioned above are well adapted for soiling in this state and will also give good yields in dry seasons when grown on well prepared rich land, even with only fair growing conditions during the early summer months. If the labor required in raising and feeding soiling crops, the palatability of the different crops, and other factors entering into the successful production of a variety of green crops are considered, it is very likely that this system will prove less economical than making and feeding silage crops, and it is well, therefore, to look into the matter of building a silo, especially for dairy farmers, and to plan to feed silage during coming summer seasons if they have not already done so. Silos are now found scattered in nearly every county of the state and a farmer will not have to travel far in order to see one and get personal advice as to the building of silos

and the feeding of silage. Unless he already has a silo or sufficient acreage of corn this season and can build a silo in the near future, he will, however, have to depend on soiling crops for next summer for the feeding of his stock in case the seasons shall turn out similar to that which we are now passing through.

THE LABORING MAN'S INTEREST IN OLEOMARGARINE LEGISLATION.

During the last few weeks of the session of congress just closed, a determined effort was made to interest the different labor organizations in the attempt to secure the repeal of the Grout law which imposes a revenue tax of ten cents per pound on artificially colored oleomargarine. The parties behind the movement, some of whom are members of congress, either ignorantly or wilfully misrepresented the requirements of the present law and the result its enforcement has upon the present price of butter.

Believing that your readers are interested in learning the truth regarding this matter, the writer requests this space for the purpose of briefly stating the facts.

The Grout law imposes a tax of ten cents per pound on artificially colored oleomargarine and one-fourth cent per pound on uncolored oleomargarine. Less than three per cent of the oleomargarine produced in the country last year was tax paid at ten cents per pound! The other ninety-seven per cent was tax paid at one-fourth cents per pound. This is sufficient evidence that the ten cents tax has nothing to do with the price of butter.

The ingenuity of the oleomargarine manufacturers has enabled them to produce yellow oleomargarine without the use of artificial coloring matter. The result is that a large percentage of the oleomargarine sold is yellow but is taxed only at the rate of one-fourth of a cent per pound.

Oleomargarine manufacturers refer to their product as the "poor man's butter" and seek to influence the laboring man with that argument. The laboring man is just as much interested in knowing that he is purchasing butter when he calls for butter, as any other man on earth, and this attempt to arouse his antagonism to protective legislation is nothing less than an insinuation of ignorance on his part.

The man who chooses to purchase a cheap substitute for butter is entitled to that privilege but he should be able to purchase it at a butter substitute price. He should remember that yellow oleomargarine is always sold at a price nearly equal to butter, while natural colored oleomargarine is sold at a much less price. He should also remember that only three per cent of the oleomargarine manufactured last year was taxed at ten cents per pound and that the repeal of the present law cannot possibly result in lowering either the price of oleomargarine or butter. It can result only in the decrease in the manufacture of natural colored oleomargarine, which is the only kind that is sold at oleomargarine prices, and which by any course of reasoning can be termed the "poor man's butter."

The writer is of the opinion that the laboring people of this country are not so ignorant as to be misled by such misrepresentations as have been made by those who are interested in perpetuating a fraud upon the consumers of the country, and that when they are familiar with the facts they will resent the imputation which is contained in such an attempt to gain their influence.

The consumer of oleomargarine and the consumer of butter are both entitled to protection, both in the choice and in the price of the article they choose to purchase. EDWARD K. SLATER, Sec. Nat'l Dairy Union.

SECOND CUTTING OF CLOVER.—A FOUNDATION FOR SILO.

I have some fodder corn planted. I expect some second cutting of clover and timothy, balance I want to make up of corn, well eared. How would you put this into the silo? One kind at a time or mix it as put in? How can the foundation of a silo be made round and sufficiently true where it is intended for silage, to be two feet down from top of foundation?

Midland Co. H. B. If I intended putting the second cutting of clover and timothy into the silo, and it was ready about the same time as fodder corn, I think it would be better to mix it somewhat. Throw in a load or two of clover and then several loads of corn, and then when you come to feed out the ensilage it would get thoroughly mixed. There is a question in my mind

however, if it would not pay you best to make this cutting of clover into hay, rather than put it into the silo. I would think this would be advisable if the weather was at all favorable for making the hay because you will want some dry feed to feed with your corn silage. Then I would put my corn crop into the silo rather than put the second cutting of timothy and clover.

The way to get your foundation even and true is to excavate down the two feet that you want the silo to go into the ground, and then for your circular foundation put up a form by springing thin boards around to stakes driven into the ground just where you want them. Have this form come up above the ground just as high as you want the foundation. That will make the foundation continuous on the inside. Now fill this with concrete and put your stave silo, or whatever structure you have in mind on top of this foundation. If you build a lath and plastered silo, have the lath on the inside set back from the edge of the foundation sufficiently for the coat of plaster. Then when I plastered it I would begin at the bottom and plaster the foundation as well as the lath and plastered part above. This will give you a smooth surface for your silo. If you put a stave silo on top of your wall then it would be better to plaster your foundation with a good coat of mortar, because the concrete will be so porous as to seep water through if the ground is any way moist at any time of the year. Not only that but it will absorb the moisture from the ensilage and cause a loss unless it is plastered.

THE COW—MAN'S BEST FRIEND.

The dairy cow, if able to express herself in a way which the human family would comprehend, might well lay claim to being man's best friend. She might establish such a claim by calling attention to the fact that from her product and from her carcass man manufactures more of the necessities of life than from any other similar source. She furnishes these necessities to him from infancy until such a time as temporal things are no longer associated with his existence, and she does it ungrudgingly and constantly.

In addition to contributing to man's necessity and his pleasure, the prosperity of an agricultural community is more closely identified with her than with any other of the domestic animals. The horse is quite essential in tilling the soil, but where necessity requires it the sturdy son of the cow can take his place, as he has done in every agricultural section on earth. The horse can only furnish labor and can only return a profit to his owner when conditions are right for returning satisfactory grain crops. It is a well-known fact that the dairy cow is the salvation of the farmer in times of poor crops, as she is able to convert the rough crops which are never a total failure, into dairy products which always have a cash value.

In addition to this, she furnishes skim milk and buttermilk for the calves, pigs and poultry, and fertility for the soil, without which a farm becomes less valuable each year and the whole country less prosperous.

The elimination of the dairy cow would necessitate an almost revolutionary readjustment of man's tastes and requirements. It would mean untold suffering and hardship. Of course she will not be dispensed with, but her value can perhaps best be appreciated by contemplating such a loss.

She will continue to be man's best friend as long as the human family exists, and will keep on supplying him with his greatest needs just as she has done through all the ages.

Minneseta.

E. K. SLATER.

A SUCCESSFUL SMALL DAIRY.

In La Crosse county, Wisconsin, H. D. Griswold is conducting a successful dairy on a 60-acre farm. He keeps from 20 to 25 cows on this land, besides young stock, hogs, sheep and horses to make the stock the farm supports equal to about 50 head of cows. The average returns from the farm are \$4,500 per year. He keeps one man most of the season, one boy all the time and another who attends school and helps with the milking night and morning. He has two silos that hold about 200 tons of silage. He keeps pure-blood stock and gets a good price for the calves not kept for his own purposes. He devotes about a third of the farm to growing corn, ten acres to hay, and about the same to oats, while the rest is in pasture, garden and occupied by the buildings. He feeds ensilage in summer to supplement pasture.

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POULTRY

A PECULIAR AILMENT.

Can you tell me what is the trouble with my chickens? The first to be noticed is a very small milky spore on one eye and this gradually grows until the eye becomes inflamed and begins to swell until it is very much enlarged and finally breaks and becomes a running sore. The first time we were troubled with this disease was two years ago in the fall when we had one hen that we did not notice until it was very bad. Thinking she had perhaps injured her eye we kept her and she recovered except that the eye was entirely destroyed. Later the same broke out in two or three young, almost full grown, chickens; one we kept away from the other chickens and it died and one did not develop farther than the white spot, and another which got worse we killed and buried as we decided it was contagious. This spring we had one or two more affected and we killed them. This one had got so it was a running sore before noticed. Now it is beginning to affect my young poultry and if you can assist me in any way in stamping out the disease I will be very thankful. The young chickens are in good health and growing fine. The ones affected are about two lbs. in weight. They do not droop and there is no discharge from nostrils and they eat well and their feathers are smooth. When the spot first appears it will close that eye a part of the time. Only one eye is ever affected.

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In reply to the enclosure relative to the trouble with which Mrs. Corkins' chickens are afflicted will say that I have noticed similar complaints upon birds during the fall and also early spring. The trouble in the fall is very similar to what she describes, and I believe that it is caused largely by the fact that the birds are in the moulting season at that time and are apt to contract colds. This is first manifested by the eyes watering. The cause of the colds is due to the fact that the birds are being more closely housed than during the summer and have not a sufficient amount of ventilation. I find that we are troubled in this manner when we bring the pullets from the range into the houses, and it might also be caused by the fact that the birds are going through the moulting and are not covered by a sufficient amount of plumage.

For the eye trouble, I would recommend the use of hydrogen peroxide in the eyes, or a little less severe treatment is the use of the following solution: Boracic acid, 4 per cent, water 36 per cent, glycerine 10 per cent, alcohol 50 per cent. If the bird is treated with either of these remedies, I do not think that she will be further troubled.

Mich. Agl. Col. H. L. KEMPSTER.

A COMPARISON OF POULTRY WITH HAY RAISING.

During the past winter I was much interested in listening to conversation between two men and a woman who came into a grocery store where I was doing a little trading. One of the men and his wife came in with an egg case containing 30 dozen eggs. The other man had come to town with a load of hay to sell to the same merchant who was buying the eggs. They came into the store about the same time and the merchant began to count up what their produce amounted to. Eggs were worth that day 33c per dozen. Thus, the case of eggs sold for \$9.90. These were just the eggs this man and woman had gotten in six days. This was an average of five dozen a day. They said they had been getting this amount for several weeks, and they had more hens that were just beginning to lay.

The man with the load of hay heard the merchant and this other man talking about the amount that the eggs came to. He remarked that they brought more money than his load of hay, which he had pulled his team very hard to bring there. The road was somewhat muddy and he could pull only 15 bales. His bales averaged 100 lbs., and he was getting \$10 per ton for the hay. Thus his load of hay brought him \$7.50. He seemed to be greatly interested in the eggs, but brought none with him to market.

I asked him about what amount of land it took to produce this \$7.50 worth of hay. He said that his entire crop averaged just about 15 bales to the acre; 15 bales to the acre, or \$7.50 per acre, the total returns from his hay crop. What do you suppose a man has left after he pays all expenses of baling, etc., from raising 15 bales of hay to the acre. The hay must be mowed, raked, hauled, stacked, and baled, and then again hauled to the market, if sold. Well, there is actually so little left that I hate to figure it out. I

then turned to the man and woman who had the eggs and asked them how much they thought was clear profit. Well, they said they hardly knew how to figure it, as they had not as yet fed their hens anything but sorghum cane heads and some wheat screenings. They said their hens had the use of about two acres of rye, and they seemed to make good use of it. They had about 100 hens in all; about 25 of them, however, were just now beginning to lay a little. I found that these 100 hens were being kept and fed at practically no cost. The cane heads were picked up from their field of molasses cane, and they thought the molasses paid them well for the ground. They said they had only about 1½ acres of cane and had saved the heads from that. They bought a few bushels of wheat screenings from the miller, at a very low price, and were using it in connection with the cane heads.

I said I was much interested in hearing these people talk, for I knew the man with the load of hay had let nearly two acres of this cane seed lay in the field, which was now almost ruined. He said he had a few hens but they did not lay to amount to anything—about one or two each day.

There was quite a difference in the opinions of the two men. The one with the hay said he could not afford to feed his hens anything that cost money, as they did not lay at all, and it was just a waste. The man and woman said they would feed their hens all they would eat if they had to buy it all and pay \$2 per bushel for it. There was the difference in the judgment and management of the two men, and when it came to paying for their loads of produce it was easily seen that there was just as much difference in the condition of the two men. The one with the eggs carried off a check for \$9.90, while the man with the load of hay got "credit on his account" for it and went in debt for more supplies. It actually made me feel sorry for the man with the hay. He had no doubt worked harder for his hay than the other had for his eggs, and the one who got credit on his account, while the other got a check to put in the bank.

The merchant told me that the man who brought the eggs never had to go in debt for anything, but instead always took some money back from him, while the other was constantly in debt to him. He worked hard and seemed to try to pay, but never could get out. The other man has only a small farm—I believe about 15 acres—raising his produce for family use and some little fruit to sell, and has a nice bank account, while the hay grower has over 100 acres of land that ought to be producing good crops but is not. It is scarcely making a support for a small family.

Now to the point I wish to impress upon the reader. I do not mean to say that this is an average case, but this is a true case and shows that there are yet men working and drudging, trying to make even a living on more acres than they can handle, and letting their land become depleted of its fertility, while there are men and women working on from five to 20 and 30 acres, making a good living out of poultry and fruits, and making it much easier than the other man who is working so hard for his 15 bales of hay to the acre.

Illinois.

R. B. RUSHING.

ODD PARAGRAPHS.

I have hens, hatched the last of August last year, that were laying before Feb. 1, but they had a yard of their own all through the fall months, and when winter came they were given a section in the cow stable where it was warm. They laid as well during the latter part of the winter as did the early pullets, and I expect them to lay six weeks later than the others before moulting. The early pullets moult early.

Be sure the hens have plenty of fresh water. A good drinking fountain is easily made by taking a tin can (the quart size is best), melting off one end so the edge will be even, then filing three or four notches about a half to three-quarters of an inch deep. Fill this can with water, cover it with a small pie tin, invert quickly and you have a perfect automatic water fountain at no cost whatever, unless you count the tin, which would be about five cents. For feeding floor I prefer several smooth boards as they are so easily cleaned.

ANY PICNICS?

We will be glad to publish the dates and place to be held of any picnics or farmers' gatherings of any kind, if those interested will let us know.

Convenient For Any Meal— Post Toasties

Are always ready to serve right from the box with the addition of cream or milk.

Especially pleasing with berries or fresh fruit.

Delicious, wholesome, economical food which saves a lot of cooking in hot weather.

"The Memory Lingers"

Postum Cereal Co., Limited.
Battle Creek, Mich.

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WEST MICHIGAN STATE FAIR SEPT. 12th-16th. Grand Rapids, Mich.

\$24,000 IN PREMIUMS AND PURSES

ENTRIES CLOSE SEPT. 2.
Premium Lists Mailed on request.
EUGENE D. CONGER, Sec., Grand Rapids, Mich.

HARTSHORN SHADE ROLLERS

Bear the script name of Stewart Hartshorn on label. Get "Improved," no tacks required.

Wood Rollers Tin Rollers

Don't Fail to See Our Display at the State Fair. Save express by taking needed stock home with you. **H. H. KING, Breeder & Exhibitor, Willis, Mich.**

FINELY BRED R. C. & S. C. Rhode Island Red Hens, \$1 to \$2 each, to reduce stock. Eggs \$1 per 20. **BUELL BROS., Ann Arbor, Michigan.**

COOPERS S. C. BROWN 'LEGHORN' "EGG-LAYERS" get in your order for early Cockerels \$1.50 up. **WM. J. COOPER, Mt. Pleasant, Michigan.**

BARRED PLYMOUTH ROCK eggs for hatching from selected breeding pens: 15 for \$1.00, 25 for \$1.50, 50 for \$2.50, 100 for \$4.50. **COLON C. LILLIE, Coopersville, Michigan.**

White Wyandottes—The Franklin Strain. Established 1895. **A. FRANKLIN SMITH, R. F. D. No. 9, Ann Arbor, Mich.**

SINGLE COMB WHITE LEGHORN eggs for hatching at following prices: 15 for \$1.00, 25 for \$1.50, 50 for \$2.50, 100 for \$4.50. **COLON C. LILLIE, Coopersville, Michigan.**

S. C. BROWN LEGHORNS—Thanks to my patrons for past favors. If you are satisfied tell others, if not please tell me. **LEWIS T. OPPENLANDER, R. No. 4, Lansing, Mich.**

White Wyandotte eggs for hatching from select breeding pens: \$1.00 for 15, \$1.50 for 25, \$2.50 for 50 and \$4.50 per 100. **COLON C. LILLIE, Coopersville, Michigan.**

DOGS.

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

ALWAYS mention the MICHIGAN FARMER when you are writing to advertisers.

HORTICULTURE

TO BOOST MICHIGAN.

Level-headed men have little use for persons who are blind to the interests of others, and especially for him who declares his to be the only genuine. Such declarations bear their absurdity on their face. On the other hand, good men have pity for the individual who is not aware of the value of his goods. His ignorance makes possible a harvest for unprincipled persons who do not hesitate to take advantage of honest men. Both these extremes should be avoided. We do not wish to exaggerate, to tell more than we can show; nor do we care to be robbed of attention because of modesty, or lack of knowledge of the advantages and conditions in which we have been placed.

A move is on to lay the products of Michigan's orchards beside those from other states so that men can compare and understand, not from the printed page, or from the words of men but from the fruit itself just what our state can grow. That is fair to ourselves and it is fair to other states. The experience at the apple show in Chicago last year was fair. Many of the western states that have been in the habit of getting all the praise of the big shows did not appear to like it as well as they might, but when the goods are shown side by side and Michigan gets the plum, it is no fraud—she gets it because her goods merit the attention.

The eastern states are the great source of immigrants who are filling the west. Men "down east" are studying the map to know where to go. Many of these men wish to grow fruit. If Michigan can give them as good and possibly better locations than can be furnished in the far west for less money, we neglect our duty toward our state by not telling these people of Michigan's advantages. The move above referred to seeks to do this. Fruit from Michigan will be put upon exhibition at the eastern state fairs during the fair season this fall. Some of our readers will be called upon to furnish exhibits for this display. For the Chicago fair last year the call was responded to nobly, according to information given the writer. The growers and the buyers had the right spirit. They wanted to show Michigan "up" as she is; and the exhibitors were surprised themselves at the splendid showing which the state made; and the western men were taken off their feet when they saw beside their artificially grown high-priced fruit produced upon \$500 and more per acre lands the crop of Michigan's orchards—high colored, large, crisp specimens whose flavor was the feature by which the judges told whether they had grown in Michigan or the valleys of the west. And the Michigan crop of last year was picked up in a few days. It was such apples as her growers are placing upon the market, while in the west professional men, who are out to influence men to buy land there, were using every artifice of the husbandman and of science to get the very best specimens to show the people. The reason for their astonishment is, therefore, the greater. Hence, we wish to urge upon Michigan growers who are hoping to provide fruit for the displays at eastern fairs, to show their best, that they might be compared with the best from other points. That is fair to them and it is fair to us. Second grade fruit would be unfair to both. Do what you can to aid nature in perfecting her products. Do what you can to boost Michigan. Do what you can to help the hard-working, honest man from the east to get a good home for himself and family.

SOME GARDEN NOTES.

After six weeks or more of almost intolerable heat and scorching sunshine, the drouth seems to have broken. Plentiful rains have fallen on every side, and it has kept us guessing as to what sort of people we are, belonging seemingly neither to the just or unjust. Well, the showers are coming now and while not excessive they are a thousand times welcome. This will not lighten the cultural work, for, while it was our salvation during the dry weather we sorely need every drop that falls as yet, and continued hoeing and cultivating are the only means of saving it.

The stink bugs are still in evidence upon the pumpkin vines, and as yet I have not found the ashes and turpentine of much value. While their usual habit

is to work near the hill, if they find that part doped they go out still further and pursue their nefarious calling just the same. So I keep hunting and killing and am as yet saving most of my vines. But they have to be closely watched, for the bugs will soon put even a large, thrifty vine out of commission, and after being stung they seem to never fully rally from it.

For a wonder I have not as yet seen a trace of the striped beetles, and my cucumber vines are doing finely. How long this blessed experience will last is, of course, problematical, but one thing is certain, no cards of invitation have been sent out and my earnest wish is that they will slight me altogether.

Wayne Co.

J. E. MORSE.

CROWDING THE CABBAGE CROP.

Cabbage is counted as one of the harder garden crops. It requires a cool moist soil generally, yet it is so general in its wants that the plants are almost universally grown. But no plant responds more nobly to good cultivation. When well tilled it will pass through the hardest droughts and produce large, solid heads; and it will also decline at the least carelessness of the gardener.

To secure the best grade of cabbage it requires to be kept growing steadily and



Thorough Culture for Cabbage.

rapidly from the time of transplanting. Any check due to a lack of plant food or a shortage in the supply of water, or unfavorable weather, affects the quality. It destroys that delicate crispness of the leaves, giving a leathery texture instead. And where we are producing for our own table quality should be sought.

The prime essential in the steady development of the plant is constant cultivation. At this season when the late cabbages are putting in their best time growing, the farmer is easily tempted to neglect the garden, for much of the area is about to be or has been harvested. The cabbages are allowed to do for themselves, taking matters as they come and the regular program is that matters do not come good. But cultivation will overcome the evil effects of the drought; it will supply plant food and give the necessary vigor to amend the attacks of insects and other pests that prey upon the plants. Thorough culture is the hope of the person who wants his sauerkraut barrel filled with the best, and it is the hope of him who desires the greatest returns from the market.

FRUIT NOTES.

The web worm has been more bothersome than usual this season. Usually we do not need to bother with them much until the August spraying when we go over the young trees also to keep the summer and autumn worms in check. This year we have had to go over the young trees a couple of times in July and strip off the worms. About the easiest way to get them is to strip off the leaves upon which the worms are feeding, carrying them in a basket until ready to burn. Burning them on the tree with a torch may do more damage than the worms would and would require more time and not be as effective. Spraying will largely prevent them if done shortly before the worms hatch, but it is hard to get at the foliage the worms are eating on account of the web if the spraying is not done until the web is formed. As yet

I have not noticed the Tussock moth or the Red Humped apple worm which usually work on the small trees in August. Last year the grasshoppers did considerable damage to young trees in sod by eating the foliage. As yet they have not bothered us this year, but there is ample time yet.

The blackberry crop is proving as much of a failure as the other small fruit this season. This is the first year that I can remember on which the strawberry, raspberry, and blackberry crops were all cut short by a drouth. But, after all, a few failures are needed to make us appreciate successes. We can console ourselves with the thought that the harvest expenses of the crops are light, and the crop will not draw heavily on the fertility of the land. It is said that every cloud has a silver lining, and we should try to see it even if the view is a little far fetched.

Our strawberries are nearly layered. This is slow, dusty work, crawling along the ground which has been so dry, to lay the runners in place, then, too, the soil being so dry and light does not hold the runner as moist soil would and it takes more time to do the work under these conditions. We are anxious to get through before a rain, however, for the rain will wash the fine soil about the roots which are forming on the runner plants and they will get quite a start over those which are not put down until after a rain. The plants are having a hard time getting started this season anyway, and we wish to help them.

Now is the time to secure the marsh hay for the strawberry beds. We hope to get ours cut as soon as the August spraying is completed. It makes little difference if it does get a little "over ripe" as we are not looking for the nutriment in it or the water, but want all the bulk we can get for the mulch and not have it too heavy to handle.

Calhoun Co.

S. B. HARTMAN.

THE APPLE CROP.

In looking over our orchards the past week, we find the outlook for a partial crop of apples more favorable than appearance would indicate earlier. While there is by no means a full crop, there are some trees with dense foliage where the fruit is showing up better where scarcely none could be seen earlier in the season; for instance, the Red Astrachan showed no signs of fruit to one glancing at the tree at the time of the last spraying, yet it bears a good half crop. Spy trees are showing up better than their early appearance would indicate, which is usually the case, as this variety bears much of its fruit well scattered through the tree, and so much of it is hidden by the foliage. I think the 'Spy' trees on the whole will average a half crop. Among the varieties which are bearing full are Tallman Sweet, Wealthy, Wagner, Transparent, Duchess, fall and winter Pippin. Ben Davis has a fair crop, Snow, Stark and Maiden's Blush light crops. Baldwin and Greening are variable, some trees being barren, some partially so, and some having a third to a half crop. Russett and Winter Rambo are almost a failure.

As much variation is found between orchards as between varieties in the same orchard. One orchard has practically a full crop, with the exception of a very few varieties, while another orchard a little over a mile from it, which has received the same or even better treatment, has about a third of a crop, while another orchard eight miles distant has almost nothing. This is true of the same varieties.

We have been interested in noting the appearance of the fruit sprayed with lime sulphur as a summer spray. While scab seems to be pretty well controlled, there is some russetting and injury due to the spray on most of the varieties susceptible to Bordeaux injury. The Department of Agriculture has led us to believe that lime-sulphur as a summer spray will not cause this injury, and we have presumed that their experiments had gone far enough to make sure of this statement. However, we have found that a strength slightly weaker than they recommend has russeted certain varieties, though on the whole this injury is not serious.

If the crop reports can be relied upon there will be a lighter crop of apples than on last year throughout the country, so the price should be satisfactory for good fruit. If we give our fruit the August spray and thin it well, we should be able to do considerable dictating to the buyers, or to handle our fruit direct on commission at satisfactory prices.

S. B. H.

SCOOP THEM

LIFT your potatoes from the hill, and transfer them to the barrel, wagon or bin with the

TRUE TEMPER VEGETABLE SCOOP-FORK

Don't bruise and cut them with the ordinary sharp-tined fork or hoe.



The Most Useful Fork You Can Own

There is always some new use for the Vegetable Scoop Fork on every farm. Beets, corn, potatoes, apples and many other fruits and vegetables can be handled in bulk with speed and economy.

The blunt, flattened-ends of the tines prevent injury; perfect shape and hang enable you to carry a large load with an easy swing.

Sold by all hardware dealers

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Hand and Power.

Illustrated and described in our catalog—is the best money can buy. They are Big Money Makers. Catalog free. Manufactured by The G. J. EMERY CO., Fulton, N. Y.

CORN HARVESTER with Binder Attachment cuts and throws in piles on harrow or winrow. Man and horse cuts and equal with a corn binder. Sold in every state. Price \$20 with Binder Attachment. S. C. Montgomery, of Texaline, Tex., writes:—"The harvester has proven all you claim for it. With the assistance of one man cut and bound over 100 acres of Corn, Kaffir Corn and Maize last year." Testimonials and catalog free, showing picture of harvester. New Process Mfg. Co., Salina, Kan.

62 Bu. per Acre Winter Wheat

The New Malakoff; The Great Russian Winter Wheat. Improved and introduced by us six years ago; has made the most remarkable record for large yields, certain crop and quality in the annals of American wheat growing. We also grow the Karkot, Turkish Red and Fultz varieties; Mammoth White Rye, all Strictly Northern Grown. Samples of Any Two varieties with Catalog Free. For additional samples of Wheat, Rye, Alfalfa, Clovers, Grasses or other seeds enclose 1c. in stamps for each to pay postage.

RATEKIN'S SEED HOUSE, Shenandoah, Ia.

SEED WHEAT

FULTZ—best milling variety, hardest and surest cropper, GYPSY—highest average yield for 12 years at Ohio Experimental Farm, also Poole Mammoth WHITE RYE, New Crop TIMOTHY seed. All these seeds absolutely true to name, pure, clean, graded and in perfect condition for sowing. Booklet, prices. O. C. SHEPARD CO., Box, 70, Medina, Ohio.

RED WAVE

THE GREATEST WINTER WHEAT. Buy seed direct and be sure of choice, clean, pure seed, true to name, free from foul seeds. Thoroughly re-cleaned and graded. Satisfaction guaranteed or money back. All leading sorts. Write today for price list No. 18. Maplewood Seed Wheat Farms, Allegan, Mich.

SEED WHEAT.

MEALY, a bald red variety, stiff straw, splendid for rich land. GOEN, a bearded red variety, hardy, good yielder, well adapted to a variety of soils. Price \$1.25 per bu., sacks included. COLON C. LILLIE, Coopersville, Michigan.

JONES LONGBERRY WHEAT—Pure, clean seed \$1.25 per bushel. Stark A bags to hold 2 1/2 bushels 25c. J. W. CHAPIN, Eden, Ingham Co., Mich.

Apple & Cherry Trees 10c. Peach & Carolina Poplar 5c & up. Other Fruit Trees and Berry plants at lowest prices. Cat. free. ERNST NURSERIES, Moscow, O., Box 2.

FARMERS' CLUBS

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

Associational Motto.—

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

ANNUAL PICNICS.

The annual basket picnic of the Green Oak and Brighton Farmers' Clubs will be held at Island Lake on Saturday, Aug. 20. A good program has been arranged. Mr. Beal, of Ann Arbor, is expected to make an address.

THE VIEWING COMMITTEE IN CLUB WORK.

One feature of Club work which is neglected in the average Club is the appointment of a viewing committee to look over the farm of the host and make a report at the meeting. As has been noted in a previous issue this may be due to the natural hesitancy on the part of such a committee to criticize where criticism is needed. This phase of the work was previously touched upon, so this comment will be limited to the consideration of the work which such a committee can accomplish outside of the factor of criticism. Unquestionably there are features about the management of the average farm which differ from the methods in common use in any community which could be brought to the attention of any Club membership to the mutual advantage of all present at any meeting. In the summer season these might relate to the methods employed in the culture of any crop grown as a specialty on the farm of the host. Where a man makes a specialty of the production of any crop he is apt to put a little more gray matter into the proposition than where this crop is not made a large factor in the scheme of farming carried out. In this case there will always be points which have made for a better yield or helped to cheapen the cost of production which it would be to the advantage of the membership in general to know, even though the crop in question is not made a specialty by them. Then there is the method of handling the farm live stock and the revenue which is derived from this department of the farm, which are important factors in the successful management of any farm, and which can be made the subject of inquiry by such a committee with profit to all concerned. The rations fed and the method of compounding and feeding them will be helpful subjects of inquiry during the winter season, when all are interested in this phase of agriculture. Likewise the equipment used about the barns and stables and the methods and means taken for reducing the labor involved in the care of the stock to a minimum can be taken up. In fact, there is plenty of scope for the profitable work of a committee of this kind in any Club. The functions of the Farmers' Club are many, but the dissemination of practical knowledge along the line of business in which the members are all engaged is one of its important functions, and it is only by living up to their opportunities in this direction that the membership can get the greatest good from the organization. The social side should not, of course, be neglected, but no more should the practical side of Club work, and the viewing committee is an important means to the end of getting the greatest possible amount of practical benefit from the local organization.

EXPERIMENTAL WORK FOR THE FARMERS' CLUB.

In these days, when science is being applied to agriculture as never before, much experimenting is necessary in order to keep up with "the procession" in the application of new theories and the adaptation of new crops to our local conditions. True, we have experimental stations, which are doing a great work in this direction, and disseminating a vast amount of general information to the farmers of the state and nation. But our soils have an "individuality" all their own, and what may be true as a principle may fall in application in individual cases, hence the only way to be sure with regard to a given crop or fertilizer or method is to put the problem right up to the soil itself and get the reply from it first hand. But this is an expensive procedure for the individual, and the fact that conditions are likely to be fairly similar in any com-

munity makes the Farmers' Club a good unit for co-operative experimentation by its members. But, one may ask, what could be accomplished in this direction? The members of the Club know what others are doing, and how much of a success they have had with new theories. Perhaps this is true to a certain extent, but there are a great many things which the members of any Farmers' Club ought to know more definitely than they do at present and which they could find out far more cheaply if they went at it systematically and in co-operation with each other than they can learn them for themselves individually. Take, for example, the growing of alfalfa. All who have given the subject any attention are ready to admit that alfalfa is a very valuable forage crop, and that it would add many dollars to the per acre valuation of the average Michigan farm if it could be successfully included in the variety of crops grown on those farms. We know that it is being successfully grown on a variety of soils and in widely separated localities in the state. We know that in other localities and on other soils efforts to grow it have not been crowned with success. We also know some of the factors which make for success or failure in its culture. But we have much to learn about the

GRANGE

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

THE SEPTEMBER PROGRAMS.

Suggestions for First Meeting.

"Give me the making of a nation's songs and I care not who makes its laws." Roll call, responded to by each member telling an anecdote about his birthplace.

Book review of "A Man Without a Country."

Dr. W. J. Beal and his work at M. A. C.—a paper.

Select reading, "Who Cries Hard Times?"

Cement farm improvements, paper or talk.

Recitation (pathetic or humorous).

Drawing contest, as a surprise feature.

Singing "America" by audience.

Dialect songs throughout this program.

GRANGE PARTICIPATION IN LOCAL AND COUNTY FAIRS.

The manner in which the Granges of Lenawee county and the county fair association have co-operated in providing for the fair a most attractive feature—the Grange building and its contents—has previously been commented on in

the music, State Master N. P. Hull was there and performed his part in the ceremony in a very impressive manner. After the dedication Bro. Hull delivered a strong Grange address. The Grange legislative program is his throughout. He neither dodges nor shrinks at any point. He stands for the tonnage tax, for good roads, for postal savings banks, the parcels post and that sort of dairy legislation that will secure to the public a clean, wholesome product rightly named and honestly sold. He says he does not know whether the specific rate of tax proposed by the State Grange upon iron and copper ores is right or not. What he does believe is, that the mines of the Upper Peninsula should bear their just share of the public burden. This he is sure they are not doing at present and when public sentiment shall have reached a point where a specific tax is strongly demanded and reasonably certain to become a fact, the experts will come forward and help frame a law that will be fair to all concerns.

Blooming Valley Grange has a hall in process of building and some time in the not distant future we hope for a like meeting with them.

The best of feeling prevailed throughout the day.

W. F. TAYLOR.

GRANGE LIFE SHOWS IN OTSEGO COUNTY.

A little while ago we visited the Otsego County Pomona Grange and while there arranged for a series of meetings with the subordinate Granges. We planned our meetings for the last week in July, thinking that haying and harvest would be over by that time, and people would be able to give their attention to these special efforts, that part of the state had been suffering from drouth through the month of June, but timely rains in July greatly helped the corn and potatoes, protracted the haying and harvest and partly saved the oat crop, so when we arrived at Elmira, on Tuesday, July 26, we found everybody busy. The people turned out well, however, and we had a splendid meeting in the evening.

At Hayes Grange we were warmly welcomed on the 27th, and held one of the pleasantest meetings of the series. A good local program had been prepared and all the numbers were well rendered. Five Lakes Grange convened at Gaylord on the evening of the 28th, and we had an enjoyable time.

Bro. Hudson, the county deputy, is a member of this Grange.

Fairview Grange is located a few miles east of Gaylord and meets in a schoolhouse. Our meeting there on Friday evening, July 29, we shall not soon forget. A good local program, plenty of inspiring music, with general good will, and ice cream that has never been excelled in quality and seldom in quantity.

The trip to Johannesburg on Saturday we enjoyed thoroughly. Here is some of the best soil in the state. This section has for the most part escaped the drouth and all crops are abundant.

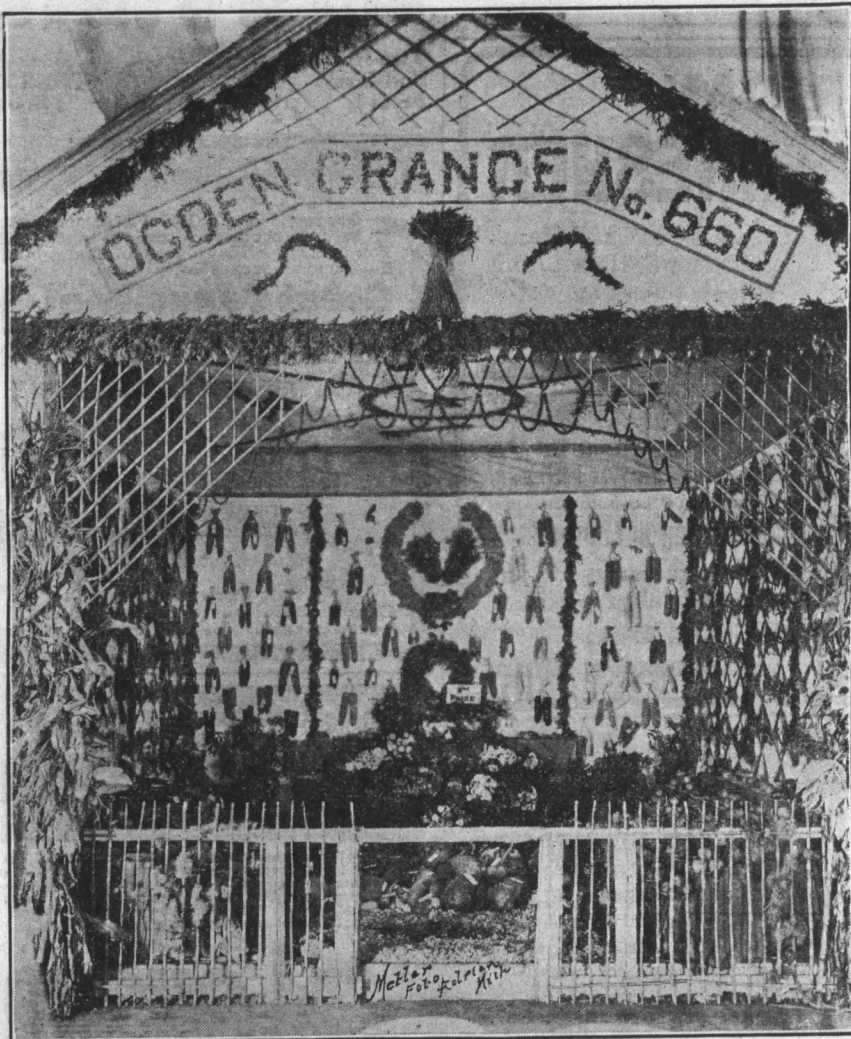
North and west of Johannesburg we rode through a tract of timber, miles in extent. It is one of the finest forests in lower Michigan. On Monday, August 1, we visited Vanderbilt Grange and on Tuesday we met the Pomona in a special meeting with Lake View Grange four miles northwest of Gaylord. This meeting was a round-up of the week's work in the county.

It was a very busy time and those who attended found it difficult to leave home, but they came gladly and did their best to make the meeting a success. Seldom in all our experience in this line of work have we attended a more profitable meeting.

There are splendid opportunities in store for the Granges of Otsego county. The personnel of the membership is very good. Grange fire insurance is popular in this county and there is considerable of cyclone insurance also. Co-operative buying is limited, at present, mainly to binding twine and Paris green. The latter is in great demand, as potatoes are the principal money crop. The last three seasons have been unusually dry. Many have gotten discouraged and a few have abandoned their farms and gone to the Canadian Northwest. But there is a future in store for Otsego county.

The school, the Grange and the church are all planned here to stay and most of the privileges of the present day, including the rural telephone, and free rural mail delivery, are enjoyed already by the residents of the county.

W. F. TAYLOR.



Ogden Grange Exhibit which Won Second Price at Lenawee County Fair of 1909.

successful culture of alfalfa on our Michigan farms. What better opportunity could we have for its study in a co-operative way than through the medium of the Farmers' Club. By making this one of the local questions for discussion during the winter, and by making it a matter for general experiment among the members during the season following, very much can be learned about the proper methods of culture which will be of benefit to all who desire to try this crop on a larger scale, as every farmer could do with profit to himself just as soon as the factors necessary to its successful culture in his locality and under his conditions are determined. What is true of this crop is also true with other crops and varieties of crops. It is also true with regard to the profitable use of artificial fertilizers, of which we know too little except in a general way. In fact, there are dozens of directions in which such experimentation and discussions could be profitably directed to the mutual advantage of the membership if a little work of this kind were attempted in the local Farmers' Club. Try it out during the coming year, for your own benefit and for the benefit of the other Clubs in the state. They will not be slow to profit by examples of this kind. The power of example is great, but someone has to take the initiative in work of this kind or there are no examples for others to follow.

this department. The fair association has provided a commodious structure in a prominent location and the Pomona Grange assumes the responsibility of having each of the seven spacious booths occupied by an attractive exhibit, the liberal cash prizes offered being so distributed that no Grange will fail to secure a premium. This year the highest prize is \$50 and the lowest \$35. The building is an octagon and the eighth booth is fitted up by the Pomona for use as Grange headquarters during the fair. The Pomona has asked the following subordinate Granges to occupy the booth at this season's fair: North Rome, Tecumseh, Raisin Valley, Palmyra, Cadmus, Raisin and Ousted. The whole plan is one which should commend itself to Patrons in other counties and to wide-awake fair associations over the state.

OCEANA CENTER GRANGE DEDICATES HALL.

Friday, July 22, was a great day in the history of Oceana Center Grange, their splendid two-story hall having been completed and paid for. Patrons and friends repaired thither and proceeded to dedicate it in accordance with the custom of the order.

Several of the Granges of the county were represented at the meeting. The Blooming Valley Grange choir furnished



POTASH

Will You Sow Clover in Your Wheat Next Spring?

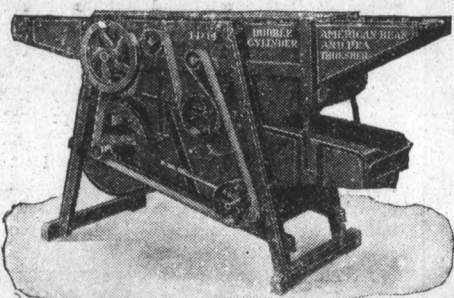
If so, prepare for it now. If there is not enough available plant food for both, the wheat gets the best of it and the starved clover dies during the summer. Clover requires three times as much Potash as wheat. Hence a fertilizer for wheat, rye or winter oats, to be followed by clover, must be high in Potash as well as phosphate. If your brand does not carry 8 per cent. of Potash, buy some muriate of potash and bring it up.

You or your dealer can buy it from us in carload or ton lots

Write for prices, and also for our new free pamphlet on Fall Fertilizers, which will show you how to make over the old brand or to mix a better one at home for less money.

GERMAN KALI WORKS, Continental Bldg., Baltimore, Md.

THE AMERICAN BEAN AND PEA THRESHER



Threshes Peas and Beans just as they are taken from the field, and separates the grain perfectly without splitting a kernel. Shreds the vines and does a cleaner job than can be done by hand. Will pay for itself in a short time in the labor and crop it saves.

Capacity, 15 bushels per hour.
Satisfaction or Money Back

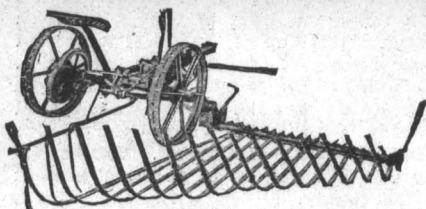
Send for full description of machine and what it is guaranteed to do, and we will tell you about our liberal 30-day free trial proposition.

AMERICAN GRAIN SEPARATOR CO.,
Huron and Erie Streets, S. E. Minneapolis, Minn.

SAVE YOUR CLOVER SEED.

You can make from \$2 to \$3 more off of every acre of seed clover or alfalfa by using a **SIDE DELIVERY CLOVER BUNCHER and HAY WINDROWER.**

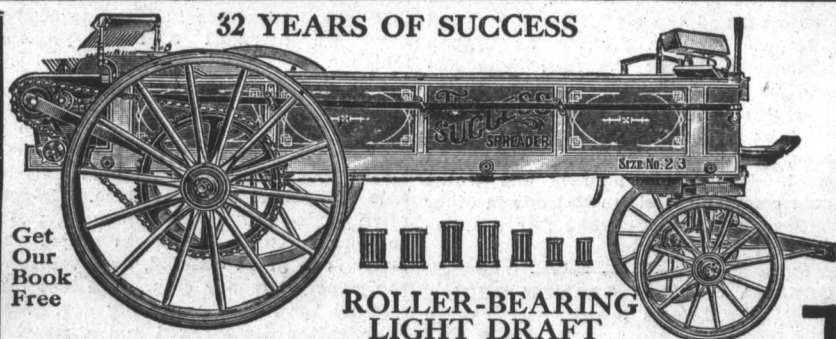
Attach one of these machines to your mowing machine and bunch or windrow your hay just as you cut it, no need of dragging it over the ground with a rake thus threshing out the seed and knocking off the leaves. In some cases where the clover is over ripe as high as 50% of the seed is lost in raking and handling.



REMEMBER THIS

The Side Delivery Buncher is guaranteed to save its cost every day it is used either in cutting clover and alfalfa for seed or for hay, or for harvesting peas, vetch, flax, etc. These machines have been on the market for 8 years and 52,086 have been sold.

Write us for our free book and see what farmers all over the country have to say about them.
Send your dealer's name. **THE THORNBURGH MFG. CO., Bowling Green, Ohio.**



SUCCESS SPREADER

The only spreader with a 32-year record of good work. Simplicity, Durability and Light Draft always foremost. Direct Chain Drive. No Cog Gears. The choice of men who investigate thoroughly. Wood or metal wheels. A generation of experience back of every Success. The leader from the first. Exclusive features all patented. Catalog of facts Free. Write us promptly.

Kemp & Burpee Mfg. Co. SYRACUSE N. Y.

Do You CARRY water from the old well? Put a Pump Where You WANT the Water



GOULDS RELIABLE FARM PUMPS

are best for every purpose, and of the scores of different styles made, there's one that will deliver the water from the well to any convenient place in house, farm yard or stable at a great saving of your time and strength.

Goulds Pumps are simple and practical in construction and most durable. They cost no more than others and save you money in the long run, because one will last a lifetime with small expense for upkeep.

Send for our illustrated book, "WATER SUPPLY FOR THE HOME."

It covers the whole subject. It's free. Get it now and study your case.

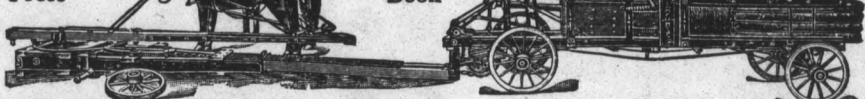
Beware of cheap imitations. Get a reliable Goulds Pump, the best made. \$3 to \$300.

THE GOULDS MANUFACTURING CO., No. 86 West Fall Street, Seneca Falls, N. Y.

Make \$6 to \$10 a Day— Baling Hay

Two-Horse Full-Circle Press

Get the "TONS TELL" Book

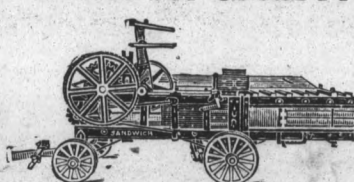


Our new book, "TONS TELL," is not only a complete catalog of Sandwich Hay Presses, but an eye-opener as to the Profits to be made in running a Hay Baler. You can run a Hay Press profitably Fall and Winter. There's always work for a Baler and big money every day you run it.

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Capacity, 2½ to 5 tons per hour. If you own a gasoline engine, this is the press for you.

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We sell Presses on Partial Payments. Send today.

SANDWICH MFG. COMPANY
273 Main Street Sandwich, Ill.

Keep It Off The Cows Put It On The Fields

No matter how hard you try you can't make an old stable with dirt floors and wood partitions sanitary—you can't keep it clean and sweet. Wood partitions gather dust and disease germs. Dirt floors with their tramped-in filth should never come within a stone's throw of your milk pail. When a cow gets off her feed and her milk yield falls below normal, look to your stable. It may be as clean as you can make it; but that may not be clean enough. Equip your stables

The Louden Way



then profits will not fall off. The cow that is best treated gives the most milk—the best milk—the richest milk. She has a heap of cow sense. She appreciates light and air, and she will see that you get your money back for making her home modern. If you will put a **Louden Litter Carrier** to work behind her, your boys or your man will clean the barns in less time and with less labor. We have been fitting up barns for 50 years. We will be glad to give you the benefit of this experience by suggesting what you need for yours, without any expense to you. Send for catalog, tell number of cows you have and submit rough sketch of stable. **LOUDEN MACHINERY COMPANY, 608 Broadway, Fairfield, Iowa.**

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Right in mid-season—right when you want it most—saving you twice the dealer's profit, we offer this advance 1911 model.

Murray pays the freight

This is a genuine opportunity for quick buyers. Murray sells on four weeks road trial. Insures safe delivery. Gives two year's guarantee. Arranges construction to your order.

This is a special offer—not in our catalog. To get full details, be sure to ask for our special Mid-Summer circular. Send postal for it today.

The Wilber H. Murray Mfg. Co., 332-338 E. 5th St., Cincinnati, O.



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For Fast, Clean Work is the



Simple, strong, always in order. Works in all soils, all depths, hillside and level. No cutting and none missed. Potatoes always clean, lying on top of ground. Works well in heavy tops.

DOWDEN MFG. COMPANY

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for your wagon. Use your old running gears—our steel wheels will fit them and make your wagon good as new. Send for free catalog of solid metal wheels (sizes to fit all axles) that cannot swell, dry apart or rot. Make a new wagon out of your old one. Write for the book now to

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