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PRACTICAL POTATO GROWING

IN considering the subject of potato growing, it may be well to divide it into five headings in the order of their relative importance, viz., soil, fertility, cultivation, spraying and seed.

Potatoes will grow in almost any soil. There is, however, a great difference between the misshapen, ill nurtured specimens found in hard clay, and the smooth, blue ribbon winners that roll out of a sandy loam. This latter soil is the ideal home of the potato. In it, it reaches its highest perfection, being enabled to develop naturally and untrammelled. Next to a sandy loam, a pure sand under proper treatment will produce the best results. In the section of Hastings, Florida, which is as noted for its potatoes as Sanford or Kalamazoo are for celery, the soil is nothing but sand, mile after mile there is almost one continuous potato field with sand of a dirty gray, unpromising looking but producing a mighty harvest of number one potatoes. Even a heavy clay may be made to produce the tuber profitably. The first requisite is drainage and this is necessary, not only for the potato but for any crop it may be desired to produce. This will sweeten the soil and bring the air into circulation, breaking up the sticky mass and tending to crumble it into particles. After this, the main thing is to fill the soil with humus. Large applications of strawy compost or leguminous crops turned under will hasten this process. In the latter case, it is well to let the clover or other crop become somewhat ripened, otherwise so much green stuff fermenting in the earth may tend to form acids and scab the potatoes.

In giving fertilizer the second place, we make it follow the soil, not because it is less important but because logically the one must follow the other. Considering fertilizers in general, and the needs of all plant life, we find that among the elements necessary for vegetable growth three are absolutely essential; nitrogen, phosphoric acid, and potash. Nitrogen enters into the composition of the leaves and working with the green coloring matter contained in them, promotes a healthy growth. Phosphoric acid is needed by the seed or grain, and potash is used in stem development and in producing firm fruit. The potato being a gross feeder needs fertilizer in large quantities. When we consider that the tuber is not a root at all, but an enlargement of the stem, we need not be surprised that potash is the thing most needed. If we are following a crop rotation in which clover is used every third year, this will largely supply the nitrogen in the cheapest way possible. If stable manure is used, it is better applied as a top-dressing to the meadow than immediately preceding the potato crop. In any event, stable manure is a one-sided food with which to attempt to raise a good crop of potatoes. An ideal formula for use on this crop is one analyzing 2:8:10 and having the source of

its nitrogen partly in nitrate of soda and partly in some organic substance, as blood or tankage. Also, it is well to use sulphate rather than muriate as the source of potash, as the latter is apt to affect the shape of the tuber.

All foods that the plant takes through its roots are absorbed by minute root hairs, through which liquids pass, carrying the food in solution. Thus it will be seen that a gross feeder like the potato

valuing, using a narrow sharp tooth near the plant but moving farther away each time and working more and more shallow until only the surface is being stirred. This may be kept up after every rain as long as it is possible to drive a horse between the rows.

Spraying is necessary to combat both bugs and blight. Many make such a strenuous effort to escape the former by late planting that they go to the opposite

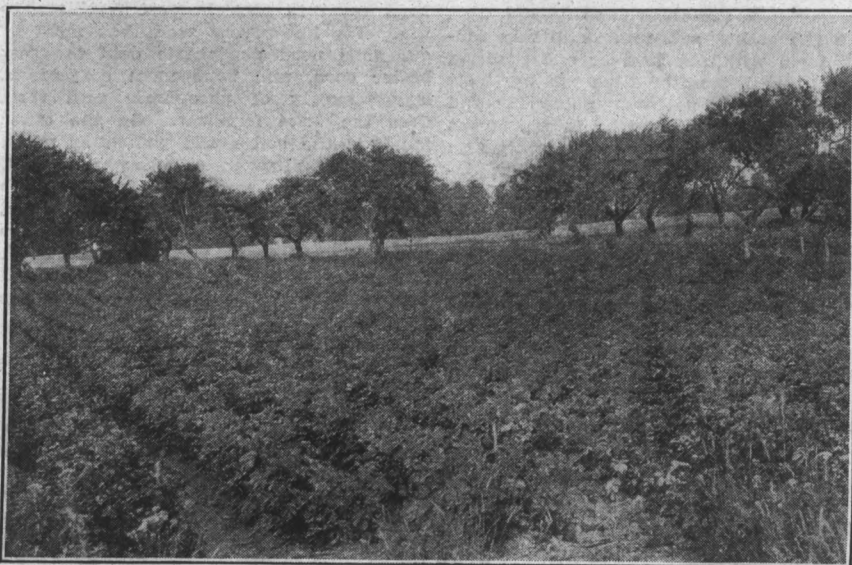
fective must be used every ten days to two weeks during the period of growth.

In the selection of seed, it is important to remember that the tuber is an enlarged section of the stem and that we are really planting cuttings and not true seed. The proper way to select seed is while the crop is being dug. Only the strong hills should be saved. When this is done the small potatoes are just as valuable as the others for, being cuttings they will reproduce the parent plant.

A number of methods have been used to combat scab, but the simplest and most effective is the formalin treatment. The uncut potatoes are immersed in a solution made of one pint of formalin to 30 gallons of water and allowed to remain for two hours.

This covers in a way the five divisions made above. Volumes might be written on the subject and we may be sure of the fact that the only limit to our production of the potato rests in our own industry and an application of our thought and knowledge to natural conditions.

Washtenaw Co. C. R. Ross.



An Example of Intensive Cultivation—Potato Field One Month After Planting.

will require great quantities of water to assimilate its food. This brings us to the question of cultivation. It has been proven too often to admit of discussion that the maintenance of a dust mulch is the best way to conserve moisture. After the potato is planted in a well prepared seed bed, having the fertilizer thoroughly incorporated with the soil by frequent harrowing, the weeder or drag should be used repeatedly until the plants begin to show the row. After this, begin culti-

extreme and are often caught by early frosts, which ruin the keeping qualities of their crop. A more desirable way is to plant reasonably early so as to insure a long growing period and to spray for the health of the plant, adding poison to keep the bugs in check. It has been proved repeatedly that spraying with Bordeaux increases the yield materially, whether the blight is troublesome or not. It must be remembered that this is not a cure but a preventative and to be most ef-

GRADING, TESTING AND SHELLING SEED CORN.

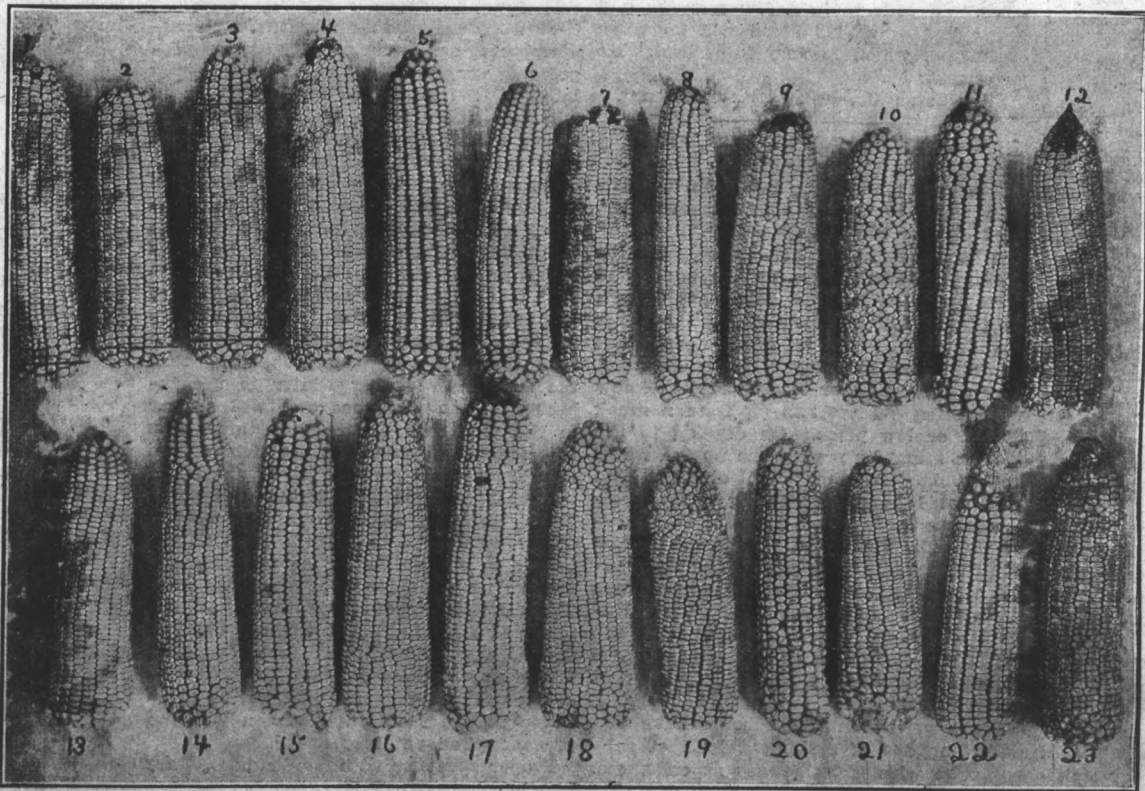
THE best time to grade seed corn is before shelling. The accompanying cut well illustrates the various kinds of kernels found on ears of suitable size for seed. Practically all varieties show these variations. The Office of Corn Investigations of the United States Department of Agriculture proved by careful field experiments that such an ear as number ten produces ears most of which have crooked rows and kernels of undesirable shape. Ears like numbers ten and nineteen should not be used for seed as they produce their like and are not as desirable as ears like numbers one and two. All ears that are undesirable for one reason or another should be discarded before making germination tests.

At this season for several years past a number of satisfactory means have been

described for testing the germination of a few kernels from each seed ear. Those who have neglected to take good care of their seed corn may now find "dead" ears among their supply. In such cases it will be profitable to test the germination of each ear separately. Where well adapted varieties are grown that properly mature before frost, poor germination has never been found among ears selected as soon as mature and cared for properly. Those who have given their seed proper care should pick out 100 representative ears and make a germination test of ten grains from each ear. If these ears germinate well it is not necessary to test the balance of the seed supply.

Why Nub the Seed Ears?

Before shelling the small kernels should be discarded from an inch or more off the tips of the ears. Accurate field tests have proved these kernels to be less pro-



A Study of Type in Seed Corn—See Accompanying Article for Lessons to be Drawn from Exhibit.

ductive than the fully developed kernels of the same ears. The thick, irregularly shaped kernels should also be discarded from the butts of the ears. These kernels produce satisfactorily but their size or shape prevents the corn planter from dropping them satisfactorily. The lines across ears one, two and three in the figure show what kernels should be removed before the ears are shelled. It is convenient to rub the entire supply of ears before the shelling process is begun.

How to Shell Seed Corn.

Many farmers who plant 20 or 40 acres of corn, carefully shell their seed by hand and are profited by so doing. A few remarkably successful extensive corn growers shell hundreds of bushels by hand. Where much seed is required there is a strong temptation to run it through the corn sheller. Hand shelling is profitable for the small farmer and therefore more profitable for the extensive farmer. The sheller breaks or cracks some of the kernels and there is not the opportunity of examining kernels from different portions of each ear as in shelling by hand. After being nubbed the proper way to shell the seed ears is to shell by hand, one ear at a time, into a sieve that will let the chaff fall through and leave all the kernels from the ear in plain view for inspection. If unsatisfactory, all the kernels can be easily discarded and another ear shelled. The ears should not be shelled directly into the general seed supply for it would then be difficult to separate and discard the undesirable kernels.

Does Your Planter Drop Satisfactorily?

If the corn planter gave trouble last spring, better order a new one now. A poor corn planter is an expensive implement to use. Even though the planter dropped satisfactorily last year, it should be tested with this year's seed supply before planting time arrives. The kernels of a variety of corn frequently vary in size from season to season and different plates may be needed this year from those used satisfactorily last year.

Under favorable field conditions 10 or 20 per cent of the kernels or young stalks are destroyed. Where extensive plantings are made with first-class seed and thinning is impracticable about five kernels should be planted for every four stalks desired. Where help is obtainable that will attend properly to the thinning, it is more profitable to plant twice as many kernels as stalks desired and thin out the weak plants as soon as they become too large and hard to be destroyed by cutworms.

U. S. Dept. of Ag. C. P. HARTLEY.

LEVELING TILE DRAINS.

After reading several articles in the Michigan Farmer in regard to laying tile drains, I will give a system that has worked well for the writer, viz., the stake system.

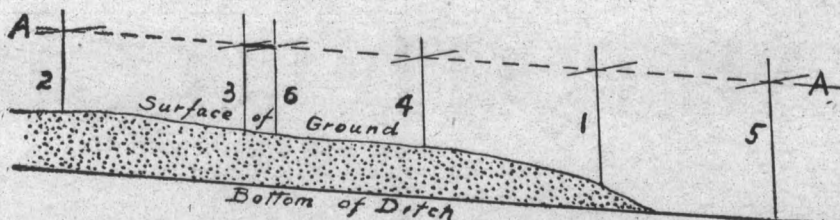
The first thing to do is to make several cross stakes. Take a good piece of board four feet long, three inches wide, also a piece three feet long, three inches wide; nail the latter piece across the four-foot stake six inches from the top. Use a carpenter's square and make a perfect cross. It is wise to make two or three stakes of shorter and longer lengths, to be used in high and low places on the ground surface. Also make a plain stake five feet long, three inches wide, for a grade stake. The width of stakes does not matter, only to be convenient to handle they should be about three inches wide. These stakes with a straight edge 16½ feet long, and a common level, are all that is needed for laying out an ordinary drain.

Start at outlet of drain, stand grade stake up at point where first tile is to be laid, and drive stake No. 1 down even with top of grade stake. Then take stake No. 2 and go to the head of the drain, or in case the drain is to be long, lay out 20 or 30 rods to start with, so that in sighting over the stakes, all can be seen plainly. For example, on diagram, we will lay out 30 rods and at this point, 30 rods from stake No. 1 determine how deep the drain should be, for example, call it two feet, set grade stake up on ground and drive stake No. 2 down beside grade stake until just two feet of grade stake stands above cross stake No. 2. This will give a two-foot drain at this point. Then take cross stakes No. 3 and 4, and drive them down, about equal distances between stakes Nos. 1 and 2 until they are down to dotted, or imaginary line A. This true line is easily gotten by sighting over stakes at either end, either No. 1 or 2. Now for convenience in getting a true bottom with the last spading,

drive stake No. 5 a short distance below stake No. 1 in same dotted line A.

The next thing, especially if the amount of fall in a drain is in question, is to find just the amount to the rod and, by the way, it is wise to get all the fall there is in the ordinary lay of land, this is easy to figure out in using this stake system.

To find the amount of fall to the rod, drive a cross stake one rod from any one of the stakes already set. For example, drive cross stake No. 6 one rod from stake No. 3, lay a straightedge across stakes Nos. 3 and 6, lay a spirit level on top of straightedge and raise straightedge at stake No. 6 until the level indicates that the straightedge is perfectly level. Measure the distance between cross arm on stake No. 6 and straightedge, this will be the amount of fall to the rod. If we wish to get more fall do it by rais-



ing upper stake No. 2 and adjusting stakes Nos. 3, 4 and 5 to again get a true dotted line A, and vice-versa to get less fall.

Now just a word to save time and labor in doing the work. In the first place, before staking out the drain, plow a deep furrow where the drain is to be laid, then with the stakes set, remove dirt in furrow down within a foot, or one spading, from where bottom of ditch will be. This part of work is not very particular and can easily be done right by taking up the grade stake occasionally and setting it in ditch and sighting over cross stakes below, leave about a foot of grade stake above dotted line A.

Now for last spading, start at outlet of drain and as you take out the last spading, every two or three feet, take up grade stake, stand it in the bottom of last spading and by sighting over top of grade stake and cross stakes below, keeping grade stake down to dotted line A, we get a true bottom, line B.

In laying the tile, start at outlet with tile scoop, clean out loose dirt and make a nice rounding bottom to lay tile in, the length of scoop handle. Then lay two or three tile, putting a little dirt each side to hold them in place, stand on them, clean out ahead and continue as you have started, till tile are all in. Sometimes it is necessary to lay the tile as fast as last spading is taken out to avoid caveins and it is wise to cover the tile as fast as they are laid to avoid damage by heavy rains or stock getting in on the tile.

Now, the beauty and advantage of this system of putting in tile drains is the fact of knowing just what we are doing, first, last and every foot of the way. It is simply a simple way of surveying out a tile drain. After the stakes are made, which will last indefinitely, and the system studied a little, a man can stake out an ordinary drain in a few minutes and know just what his drain will be when completed, which is very important. No guesswork.

Shlawassee Co.

FARMER.

TILE DRAINING IN HARDPAN.

Exceptions might be taken to Mr. Lillie's reply to J. B., of Oceana county, Wet clay or hardpan is easily "puddled" and becomes impervious. Taken from the bottom, thrown on top on the bank, and back again on the tile, this mass thrown on tile in filling partly or wholly closes the joints. Even in muck, conditions sometimes make entry of water slow. A year ago a neighbor was puzzled to know why water did not run off from a muck pocket or low place. On digging to the tile, he found by prying one up the water rushed in. Another case of this kind was noted in underdraining a hog wallow in an orchard two years ago. It never worked. The drain was taken up and the tile covered with gravel and the trouble was overcome. The past two seasons have shown the defects of draining. Underdraining is very expensive, and the small added trouble of putting in gravel in particular cases would add 50 per cent to its utility.

Some writers in The Farmer have discussed modes of making a level of rubber tube with glass gauges at ends, etc. After I had the mumps and measles, etc., I had the rubber tube level fever. This was 25 years ago. They are not all prac-

tical. One can get a regular drainage level for from \$15 to \$75. One for \$25 will do fairly good work. Most all drains should be laid out. But it is better, and not expensive, to get a person familiar with such work, and the result will be very apt to be satisfactory.

Lapeer Co.

"DITCHER."

BEST FERTILIZER FOR CORN.

Which would be the cheapest and best for fertilizing corn in the hill? A fertilizer with a 2:8:4 formula at \$24 per ton, or bone meal at \$30 per ton?

Branch Co.

W. S. H.

This is an exceedingly difficult question to answer. One fertilizer is what is known as a complete fertilizer, containing nitrogen, phosphoric acid and potash, the three essential elements of fertility. While the other fertilizer, bone meal, contains only two elements, nitrogen and

phosphoric acid, and does not contain any potash. Now the question is whether the land needs potash or not. Without knowing this, one does not like to risk bone meal alone. If W. S. H. has experimented so that he is satisfied that his soil doesn't need potash, then undoubtedly bone meal is the cheapest fertilizer to use. We know very well that most of our soils need phosphoric acid to grow better corn, and bone meal contains a larger supply of phosphoric acid than does the 2:8:4 fertilizer. On the other hand, if the soil needs potash as much as it does nitrogen or phosphoric acid, then the bone meal would not do as much good as the 2:8:4 fertilizer, or a complete fertilizer. Knowing no more about the soil than is explained in W. S. H.'s letter, I should say that safest and best way would be to use the complete fertilizer, 2:8:4.

COLON C. LILLIE.

FARM NOTES.

The Potato Blight.

Last summer I planted my potatoes between June 18 and 20. Seed was free from scab or blight. The ground was new sandy loam. Had a pretty fair stand, but along the latter part of September the blight struck them, causing a good deal of the foliage to turn black. I have got some fine white seed from these potatoes and I intend planting, if spraying these plants with Bordeaux mixture would prevent them from being blighted again. If it would prevent blight I would like to know how to mix this solution, and how much per acre if potatoes are planted 32 inches both ways; and how often would I have to spray during the season? I intend plowing three or four acres of alfalfa stubble in which the grass is crowding the alfalfa out in some places. Which would be best for the potatoes, to plow early or after the alfalfa had got four or five inches of growth?

Kent Co.

SUBSCRIBER.

The development of the potato blight is due to the entrance of the spores of this fungus generally through the leaf tissues of the plant under favorable atmospheric conditions, the disease progressing very rapidly, as described in this inquiry. Scientists are not agreed as to whether this disease lives over in the tubers and is developed in the succeeding crop to any extent or not, although experiments in the use of seed from the blighted potatoes infected with the disease, show that infected tubers produce weak and spindling sprouts, or in many cases no sprouts at all. It is probable that this is the most serious objection to the use of potatoes from a blighted crop for seed, although some scientists contend that there is a strong probability that the fungus lives over winter in the tubers in some instances and will appear in the weakened stalks from these hills the following year, from which source the disease will spread. Prof. Coons, of the Michigan station, advises that potatoes which are sorted from either cellar or pit where the blight has infected the tubers to such a degree as to cause extensive rot should not be used for seed. The advisability of using these potatoes for seed should, in the writer's opinion, depend very much upon their condition and if any of them show an infected condition upon cutting it would not be profitable to use them in a season like the present when potatoes are cheap.

Proper spraying with Bordeaux mixture has been proven to be adequate protection from blight infection where the spraying is properly done. The number

of sprayings required, however, will depend not a little upon weather conditions. As it will not be necessary to spray the late-planted crop before early in August, it is yet rather early to publish a formula which many interested readers would mislay before that time, but this matter will be again commented upon at a suitable time before spraying is required.

Early or Late Plowing for Potatoes.

Undoubtedly better results would be secured if this alfalfa sod is plowed as early as practicable in the spring, although it could be allowed to get some growth before turning under, and still be plowed comparatively early. The earlier the potato ground is plowed, however, the better it can be prepared for planting and a larger proportion of plant food in the soil will thus be made available for the use of the potato crop.

THE VALUE OF WINTER EMMER VS. SPELTZ.

Will you advise me as to the success of emmer or speltz in Michigan and its feeding value? Also as to the success of alfalfa and what is the best nurse crop and about how much of both to sow to the acre. What kind of fertilizer should be used on both the speltz and the alfalfa, if any?

Genesee Co.

B. F.

There is a difference between emmer and speltz. Emmer is a winter variety and is sown in the fall like wheat. Speltz is a spring variety sown in the spring at the time of sowing oats. The plants are somewhat similar and yet there is a difference. Emmer is supposed to be the best yielding plant, and it is supposed to be richer in food nutrients than speltz. Winter emmer with the hull on analyzes just about the same as Indian corn, or winter emmer meal ground, hull and all, as you would oats and corn meal, have practically the same analysis. It is not uncommon to raise 60 to 75 bushels of winter emmer to the acre, and this would make it almost as valuable a plant as corn, especially for cattle and horses. There is almost too much fiber about the hull to be used as a hog feed. Winter emmer is being grown successfully in Michigan at the present time. Last year I grew about an acre of it and this year we have a larger acreage. It is being grown as far north as Ogemaw county at the present time. Whether it will prove a more valuable plant for Michigan than other plants which are grown here, I am not prepared to say at the present time. It is said to be a wonderfully drought resisting plant.

Is Alfalfa a Success?

With regard to alfalfa being a success in Michigan, there isn't any question about it. Thousands of farmers are growing it now and getting all the way from four to five or six and even seven tons of cured hay to the acre in three or four cuttings. A great deal has been learned about growing alfalfa in the last few years. We have learned that it wants to be sown on rich soil and it wants to be inoculated, that ordinary soils want, in addition to fertilizer, lime to sweeten the soil. And when we do this there is little danger in having a failure with alfalfa. Of course, alfalfa must be sown on well drained land. If it is not naturally well drained then it must be artificially drained by tile draining.

Best Fertilizers for these Crops.

The best fertilizer for winter emmer or alfalfa or for any other crop grown in Michigan is good stable manure reinforced by commercial fertilizer rich in phosphoric acid and potash. Stable manure is an extravagant manure to use alone because it is comparatively rich in nitrogen and we grow alfalfa and clover to get nitrogen. Now we want to spread our stable manure on a little thinner and use a commercial fertilizer rich in phosphoric acid and potash to balance up this to give the growing crops a balanced ration. Of course, if one hasn't the stable manure to use then he wants a little nitrogen in the fertilizer to take the place of the nitrogen which he would otherwise get in the stable manure. In this way we feed the plants without stable manure, but we must remember that we are furnishing no organic matter in the soil and if we feed plants in this way we must have some plan or system of plowing down some growing crop or some vegetable matter to keep up the humus in the soil.

COLON C. LILLIE.

Stops His Advertisement.

The Michigan School for the Deaf, which have been advertising stock in the Michigan Farmer, writes as follows: "Our advertisement for the present season has been so successful that all of our surplus stock has been disposed of. Kindly discontinue our advertisement until further notice."

SEEDING CLOVER AND ALFALFA WITH OATS.—WHEN TO USE LIME.

Am I on the right track? My soil is a gravel loam and sand. Hard work to get a catch of clover. On account of losing seeding my rotation for two fields has been corn and oats and corn again last year. I am putting the fields into oats this year. I intend to lime soil with first dragging, then drag it over and in sowing oats use fertilizers and seed with oats. Or would it be better to use fertilizer with oats then as soon as oats are off lime my soil and chance a fall seeding? I intend to seed one field with red clover and the other with alfalfa.

Washtenaw Co.

J. L. G.

One cannot tell whether this soil needs lime or not without making an investigation. Because clover has failed is strong suspicion that it is acid and does need lime, but we are not certain. I would apply the litmus paper test or the hydrochloric acid test. Possibly the only reason why a clover failure was experienced was on account of acidity of the soil, or possibly it was because the soil contained a very small amount of humus and would not stand the drought. Then, again, it is possible that it lacked plant food, especially phosphoric acid and potash, the two mineral elements which the clover plant must have if it prospers. Certainly J. L. G. is on the right track in trying to get this land seeded to clover, and probably he could do no better way than to seed with oats this spring, but I would not seed with oats with the idea of harvesting the oats as a crop of oats. I would not sow over a bushel of oats to the acre and then I would cut these oats for hay when they are just getting into the milk, before the seed forms, and get them off from the field. This will give the land then to the clover and the alfalfa and give it the best kind of a chance.

The proper time to apply the lime is certainly after you have plowed the field and harrowed it over once. Then apply the lime and harrow it again and mix it thoroughly with the soil. Then sow your oats and clover and alfalfa at the same time, that is, use a fertilizer grain drill with grass seed attachment, letting the clover seed drop in front of the drill hoes. On the field which you intend to sow to alfalfa it would be a splendid thing if you would mix the fertilizer half-and-half with screened dirt from an old alfalfa field. This would inoculate the soil and undoubtedly the soil needs inoculation. The more liberal application of fertilizer you have, not having stable manure, the better chance you have of getting a good catch and a good crop of either clover or alfalfa.

I am of the opinion that it is better to sow the alfalfa this spring with oats than it would be to seed to oats and then plow it later on and seed to alfalfa this fall. Your clover and alfalfa will get a better root system which will enable it to withstand the rigors of next winter better than it will if it is sown in August.

COLON C. LILLIE.

THE LABOR PROBLEM FROM THE HIRED MAN'S STANDPOINT.

In the last issue of The Farmer I read with much interest, the article on "The Average Hired Man," by Mr. Hutchins. Now I am, I suppose, what he calls "the average hired man." I was brought up on a farm and, not being needed much at home, have worked for various farmers.

Having had experience with good and bad employers it seems to me that Mr. Hutchins has stated only one side, and that none too correctly. Because one man has made a couple of aggravating mistakes, that does not make it out that every "hired man" is careless. It has been my experience that the farmers are more careless than their help. Most of them expect their help to do just so much with the team, regardless of the weather. For example, I know of one farmer who has had three or four good horses spoiled because he insisted on his man doing so much harrowing on a sultry day, yet that same man pretends that he wants the help to be careful of the horses and if his attention was called to his horses' condition would blame the man for it. This farmer is not the only one either, for I know of others that have had their horses hurt, and even killed, by insisting on so much being done on a hot day. Too many farmers hurry their help and expect to get two days' work in one and then blame the man for being careless.

If they would pay better wages and furnish work the year around and not allow buildings, etc., to run down so that

it takes four or five hours to get ready for work, they would get better and more reliable help. A man can't be blamed for going to the city to work if he only gets \$25 a month for a few months in the summer and has to work with old horses and tools which are continually breaking down, getting up at four in the morning and working until dark at night, and then doing chores until 8:30. I know of several farmers who expect that of their help, and yet they complain because the men go west and into the cities to work.

I have worked at only one place, and that was in Illinois, where life was worth living and where one could save money. There one arose at four in the morning but at six in the evening everything was done and supper over, and the rest of the time was yours. Up-to-date tools, manure spreader, etc., cement floors in the barn, and good harnesses, made the chores and work easier and less irksome and the work was done in less time.

If the farmers would have a system and plan their work so that the hours would be more regular, the "hired men" would be more plentiful and more reliable.

Much more could be said if space permitted, but perhaps this will cause some farmers to realize that there is at least two sides to the farm help question.

Van Buren Co.

A HIRED MAN.

SEEDING ALFALFA IN WHEAT.

I would like to ask you a few questions about alfalfa. Would you seed with wheat? We have 14 acres of first year alfalfa and the June grass is getting in it quite bad in places; would you disc it up this year? If so, at what time?

Lapeer Co.

SUBSCRIBER.

I don't think our ground is well enough inoculated with the bacteria which assist the alfalfa plant in getting nitrogen from the atmosphere so that we would be warranted in seeding to alfalfa alone with wheat in the spring as we do with common red clover. It is well inoculated with the red clover bacteria but it is not with alfalfa bacteria. I am of the opinion that the time will come after we have raised alfalfa on all the fields of the farm that we can seed the wheat ground to alfalfa just the same way as we do now to red clover, and be just as sure of a stand, but I don't believe that we can risk this now. However, I think it is a splendid plan to mix about one-third alfalfa seed in with the red clover and seed on the wheat in the usual way. Some of this alfalfa will live and in that way we will inoculate the soil so that when we get ready to sow this field to alfalfa it will be already inoculated.

I am aware that some are getting good stands of alfalfa on fields that never grew it before without any inoculation. It is fairly safe to do it without inoculating if the field is rich and in good tilth. The alfalfa will take care of itself without this bacteria until it gets fairly well established, and then it will inoculate the soil without any particular trouble. If I wanted to get this field that is now in wheat, to alfalfa as soon as possible I think I would rather not seed in the spring but after the wheat is harvested go on and fit the ground, plow the ground and fit it, make a fine seed bed, work it carefully until the first part of August, and then seed to alfalfa alone. There is little danger that the season will be dry at that time of the year, especially soil that is plowed after wheat harvest, but if you will put enough work on it I think that you can get this in good condition by taking a little pains in fertilizing when you sow the alfalfa seed so that you will be practically assured of a good stand. If I did this then I would make arrangements to inoculate the soil, either with soil from an old alfalfa field or else get the commercial nitro-culture.

With regard to the June grass which is coming into the new alfalfa I would not touch this until the alfalfa was pretty well established, certainly not until I had cut one or two crops. Then, if the June grass seems to be gaining on the alfalfa, directly after harvesting the hay I would go on with a spring-tooth harrow, not a disc harrow. I am sure the spring-tooth harrow is the proper tool to use for this purpose. It would be a good thing if you had the spring teeth sharpened so that they would be a little pointed and not too broad. These will work between the alfalfa plants and not injure them to any great extent and it will dig out much of the June grass. If your alfalfa field needs to be fertilized with a phosphate fertilizer then is just the time to put on this fertilizer before you harrow the ground.

COLON C. LILLIE.

Buy a Roofing that will Require No Repairs

throughout its life. That will be watertight, fire, wind and lightning-proof for a score of years.

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RAISING CORN FOR ENSILAGE.

Many times I have been asked the best crop for ensilage. Corn is the only crop that meets all the requirements. Land that will raise a ton of hay to the acre will raise 10 tons of corn, and land that will raise one and one-half tons of hay to the acre will raise 15 tons of corn. Three tons of ensilage is worth as much as a ton of timothy hay, so to make the producing powers of an acre equal to the corn for ensilage we would have to raise five tons of hay.

My practice of raising corn is this. I follow a four-year rotation—clover, corn, potatoes and small grain, seeding with 10 quarts of red clover seed and two quarts of timothy, mowing the clover twice and planting it to corn the next spring. During the winter the manure is hauled to the clover sod as fast as made, about 10 to 15 loads to the acre. It is plowed under in the spring about six inches deep, then rolled and fitted thoroughly with a disc and spring-tooth harrow and planted in check rows three feet each way. I find that it makes very little difference whether the corn is put in hills or drills if the same amount of seed is used, except in cultivation, it often being desirable to cultivate both ways. In this locality Leaming corn will make good ensilage. Never under any circumstances put on more than eight or 10 quarts of seed to the acre, because we must bear in mind that corn is a sun plant and cannot mature if planted too thick.

As soon as the corn is planted begin cultivation with a weeder or smoothing harrow. After it comes up go over it again in the other direction. Keep up this early cultivation until the cultivators are started. This destroys the weeds just as they are starting and hoes the plants better than could be done by hand. The time has gone when we can afford to hoe ensilage corn by hand. The early surface work with the weeder and cultivators makes short work of the weeds and conserves soil moisture. As soon as the weeder and smoothing harrows are stopped keep up the good work with the cultivator. Use some kind so that the depth can be governed. Never put the cultivator down deep after the plants have developed good root systems. If necessary to go deep, do it while the corn is small, but never after it is very large, for deep cultivation injures the roots, checking its growth to such an extent that the crop will not mature before frost comes. Keep up cultivation frequently until the corn is nearly full grown.

New York. W. MILTON KELLY.

HOW TO GROW PEAS AND OATS.

I would like a little advice on raising Canada peas and oats, for feeding to cows. I have a fairly rich soil, clay and sand, and have a liberal amount of 2-8-4 fertilizer to sow. How much oats and how much peas should I sow to an acre, and what is the best way to sow them? I have a grain drill with fertilizer attachment. Can oats and Canada peas be cut with a grain binder? Do Canada peas and oats make about a balanced ration for cows, alone, where clover hay and fresh cut cornstalks are fed? I have a liberal amount of corn which I could mix in.

Saginaw Co. M. W. M.

If you have a good rich soil containing a liberal amount of clay you can hope to raise a profitable crop of peas and oats. Both of these crops like a rich soil containing a good per cent of clay to hold moisture. A 2-8-4 fertilizer will be a good fertilizer for this crop. It is a splendid fertilizer for oats. Peas don't need probably quite so much nitrogen, in fact, they get a good deal of their nitrogen from the atmosphere and one might cut down on the amount of nitrogen in the fertilizer, and yet it will give the oats and also the peas a quick start and might possibly on your soil be the very best formula for you to use.

I would mix the oats and peas together and sow them with a grain drill. If you want to sow them to harvest for grain and grind the grain to feed the cows then sow equal parts by measure. If you make hay out of them sow equal parts by weight. Sowing the peas with the oats the oats will hold the peas up so that they can readily be harvested by the self-binder and handled in just the same way you would an oat crop alone.

You can make a splendid ration for dairy cows if you feed them all the good clover hay they will eat up clean and all the fresh cut cornstalks, they care for every day and then give them peas and oats ground, for a grain ration. This is a splendid ration, and if you have got good dairy cows you can afford to feed as many pounds per day to each cow as she produces pounds of butter-fat in a week, and if a cow won't do well on this ration she should be disposed of.

HOW TO MAKE GOOD DAIRY BUTTER.

Would you please tell me the correct method for making good butter? Is there any way to determine just how long the cream should stand before churning and how much salt to use per pound?

St. Clair Co.

SUBSCRIBER.

Butter making is both a science and an art. It is a science when we understand the laws governing bacteria and temperature. We can't hope to make good butter unless we have good clean, pure milk from healthy cows. Then this milk must be handled properly. One great trouble in making butter from a small number of cows is the keeping of cream in proper condition until enough of it is accumulated to make a churning. If one had enough cream so that it would pay to churn every day then much of the trouble with the butter maker would vanish, but of course this is impossible in the ordinary farm dairy. The cream must be kept from one skimming to another and sometimes for two or three days before enough is accumulated so that it will pay to bother to churn.

Now the thing to bear in mind in this respect is just as soon as you are through separating to take the cream and cool it down at least to 60 degrees. Set it in cold water and stir it until the animal heat is out, and then set it away in a cool place, the cooler the better. When you skim the next milking cool the cream down in the same way and then mix it with the old cream. Never mix warm with cold cream—you will get into trouble. You will not have nice flavored butter if you do this. The storage where the cream is kept should be not only cool but ventilated so that there will be a circulation of air.

After you have in this way accumulated enough cream for a churning, depending, of course, upon the size of your churn and the number of cows which you have, then the cream should be ripened before churned. Even the last batch of cream that you have before you churn ought to be cooled before it is mixed with the other cream. If you keep the cream too long it turns bitter and makes bitter butter. When it is time to churn bring the cream out and warm it up to 70 degrees. This is best done on the farm by setting the cream can in a tub of warm water and gradually stirring the cream until it gets up to 70 degrees. Don't trust anything but a good thermometer in taking temperatures. There is where most people make a mistake in making butter; they guess at things that they should know absolutely. After you have warmed the cream to 70 degrees, keep it in a room of about that temperature for 24 hours. This will allow the cream to sour or to ripen, as the butter maker calls it. One can tell after a little experience by the looks of cream when it is ripe enough. It has a golden glossy appearance which is readily distinguished by one who has had experience. At the beginning it would be a splendid thing to have a Mann's acid test to test the cream for acidity, but after a time one who is quite observing can get along without the test for acidity. He can tell by the looks of it, or by the taste of it pretty well if he has a healthy sense of taste.

Now when the cream is ripe enough, it should be cooled down at least to 60 degrees in the winter time and in the summer time lower than that, before churning. Churn until the butter breaks and when it is in granules as large as kernels of wheat, stop churning. If your butter does not gather in granular form it is a good sign that your cream is not cold enough for churning. Next draw off the buttermilk. If some of the butter runs out with the buttermilk you will have to have a little strainer, because you must not allow the butter to gather in masses before you wash out the buttermilk. If you do you will not get it all out. After the buttermilk is thoroughly drained out then put in cold water. It must not be warm because if it is the butter will gather in masses, which must be avoided until after you get the butter salted. Put in cold water and

turn the churn over once. Then draw this water off and put in some more water, turn it over again, and draw this off, and keep doing this until the water runs away clear. Then the buttermilk is all washed out of the butter.

And now, while the butter is still in this granular form, grains about the size of kernels of wheat, add your salt. What you want is about an ounce, or an ounce and a quarter, of salt to the pound of butter after it is packed. You must add about an ounce and a half of salt, perhaps a little bit more, to this granular mass, and then it should be thoroughly stirred in. You can do this with a wooden spoon, but a wooden form made on purpose for it is better than a spoon. After it is well stirred in take the ladle and remove the butter from the churn into a butter bowl and let it stand. Then you can re-work it if you wish to. This will, if it is not overdone, get out excessive moisture and any remaining buttermilk. Most people, however, take it in this granular form, or after it is washed and salted and turn the churn over until it gathers in masses. Then take it out and pack it directly into jars, or they allow it to stand awhile in the granular form and then re-work it.

Now this is practically all there is to making fine butter. Nobody can make fine butter unless they have fine sweet cream to start with; if you have this and handle it as stated above, you can make a gilt-edge product.

HOLSTEIN BREEDERS MEET.

The West Michigan Holstein Breeders' Association met April 9, at the Board of Trade rooms, Grand Rapids, with an attendance of 40 members despite the busy season. A number of the members are fruit growers also and are busy with spraying. President M. W. Willard, of Kent county, presided and the speakers from outside were Frank R. Crandall and H. W. Norton, Jr., both of Livingston county. Mr. Norton is president of the Michigan State Holstein-Friesian Association and Mr. Crandall is ex-president of that organization.

Peter Buth, of Kent county, who has spent the past winter in Europe, spoke of the black and white cattle in Holland. He says that while they have a fine lot of show cattle there, when it comes to milking, or performance at the pail, the cows in this country are ahead. Beef is high there, two and three-year-old steers bringing \$150.

Dr. Elzinga, of Kent county, spoke on tuberculosis in cattle and answered many questions. First physical symptoms of the disease, he said, might be general signs of not doing well, attacks of indigestion, enlarged lymphatic glands and a cough. He prefers the interdermal to the temperature test, though both fail sometimes.

In the afternoon Mr. Crandall spoke on Holstein types and their relation to the dairy function. He prefers the beef and milk forms to the milk form, though care should be taken not to breed too strongly toward the beef type.

President Norton brought greetings from the Livingston county Holstein Association, organized about a month ago and with a rapidly growing membership. He spoke of the Central Michigan Association, at Lansing, and the Lenawee county breeders and said that all local bodies ought to give support to the state organization for the sake of remedial legislation and other mutual advantages. It was stated there are from 2,000 to 2,500 people in Michigan who are directly interested in Holstein breeding in Michigan and less than nine per cent of them are members of the state association. He gave official records of Holstein leaders and also showed by charts covering the past five years that the number of cows being tested is increasing, with a good increase also in butter-fat records each year.

Secretary Harper made a report on the recent sale of the Sprague herd, the facts being as follows: Less than four years ago T. W. Sprague started with a foundation herd of 14 females and a yearling bull, the investment being \$4,000. His herd since that time has paid over 20 per cent interest in cattle sold, besides the milk and butter product, and the 40 head have just brought \$14,415 cash. "What Mr. Sprague has done," says Mr. Harper, "can be done by any farmer who will buy good quality cattle for a foundation herd, feed and care for his cattle properly and give every purchaser a square deal."

It was voted to hold the August, or picnic meeting, of the association in Grand Rapids.

A. GRIFFIN.

THE DUTCH BELTED CATTLE.

The Dutch Belted cattle are natives of Holland and the original name is Lakenfield. This name is still used in Holland and comes from the word, laken, meaning a sheet wound around the animal's body. Their type and color were established by scientific breeding, which dates back beyond the seventeenth century and the breed were formerly in the hands of the Holland nobility who still keep them pure. The historian, Motley, has said: "These are the most wonderful cattle in the world," and for a scientific breeding attainment they have no parallel. The wars

The potency of the white belt is a conspicuous characteristic of these cattle and it will often show up on the grade stock after several generations. When a Dutch Belt bull is crossed upon other breeds or upon grade stock, the result will usually be gray belted, red belted, or black belted. No matter what may be the foundation color, the white belt is usually retained on the grade animal. It proves that the Lakenfield or Dutch Belt cattle are not purely a result of accidental breeding and there is no other breed that can compare with them in potency.

The Dutch Belts in Holland are said to be larger and have broader belts than



Herd of Dutch Belted Cattle Illustrating Peculiar Color Markings of the Breed.

on the continent were responsible for destroying many fine animals and at the present time it is estimated that there are comparatively few of these Dutch Belted cattle in Holland. The animals have a broad band of white around the barrel which stands out in marked contrast to the black body. The white belts are sometimes very broad, but the tendency in recent years has been to breed for a medium narrow belt. They are the most beautiful of the first-class dairy cows and never fail to attract great attention wherever they are exhibited.

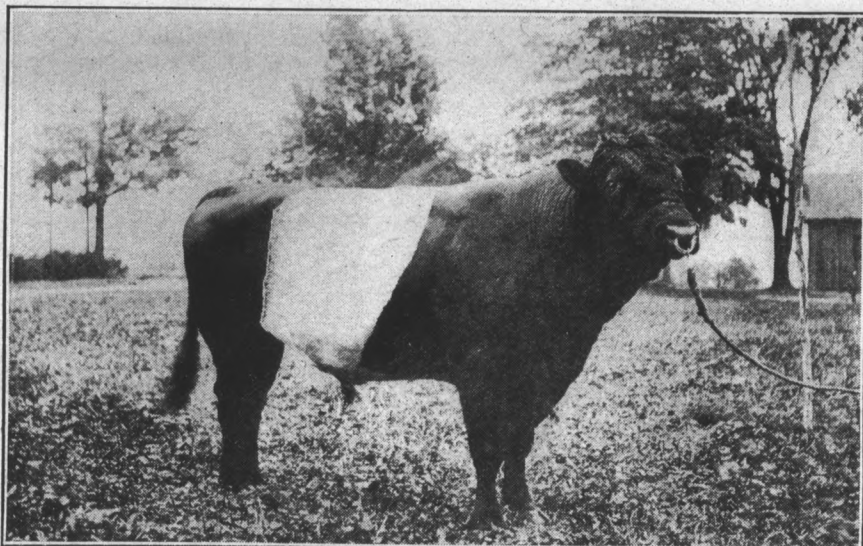
At one time there were herds of Belted cattle in Holland having white heads and around the eyes were black rings about one inch wide. This is an unusual and peculiar feat in breeding and while it is not a practical point worthy of the attention of modern scientific breeders, it is still of great interest because of the difficulty of its accomplishment.

One of the first importers of Dutch Belts was P. T. Barnum, the great showman. Their unique and attractive appearance struck his fancy and he brought them over as a novelty to entertain and please the public. He found that their singular and attractive appearance in the show tent was not their best recommendation as they proved to be excellent

those in America. Most of them have some white on the hind feet, but the American breeders are trying to eliminate all the white save for the broad belt.

The Dutch Belts have strong, vigorous constitutions and are very hardy. They stand sudden changes in climate and thrive well on ordinary rations. The calves are of large size and the bulls crossed with grade cows will produce calves of excellent size and quality. The Belts are a large size dairy cattle and the cows usually weigh between 1,000 and 1,250 pounds, while some of the bulls have reached over a ton in weight. This breed is distinguished for docility and the bulls seldom become ill-tempered with old age. The cows are usually gregarious and it is difficult to pick the mistress of the herd. In selecting a family cow, no more beautiful and useful animal can be found than the Dutch Belt. For the suburbanite who desires several high-class animals, there are few breeds that have a more perfect combination of utility and beauty.

At the present time there is an increasing number of these animals in the United States and the establishment of good herds is not so greatly restricted by the scarcity of good breeding stock. When systematic breeding and selection are



Knox-'em'All—Grand Champion Dutch Belted Bull at Chicago National Show, 1912, Owned by Kirby Orchard Co., of Van Buren County.

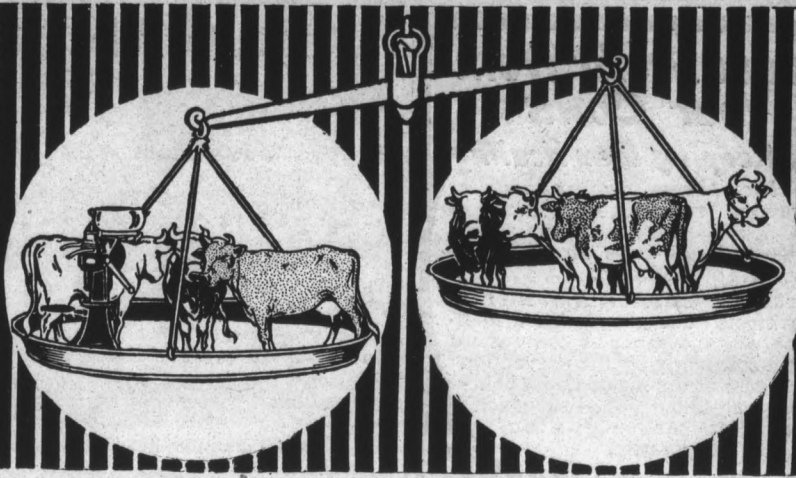
milkers. D. H. Haight, the United States Consul to Holland, made the first importation of these cattle in 1838. A number of the Dutch Belted cattle have been sent from this country to Canada and Mexico and in recent years exportations have been made to England, Brazil and Cuba. There are about 600 Dutch Belt breeders in the United States at the present time and formerly most of the herds have been largely confined to the states of New York, New Jersey, Connecticut and Virginia. There are now numerous and extensive herds in Illinois, Michigan, Wisconsin, Iowa, Kansas, and California.

carried on to increase the production and the popularity of these beautiful cattle, it is expected that they will take a place in the front rank of American dairy breeds.

Van Buren Co.

R. G. KIRBY.

Don't forget to plant some sweet corn or other corn to be used to feed the cows during the summer drought unless you have plenty of summer silage. If you have plenty of summer silage then this can be omitted, because that will take the place of all other green forage during the drought.



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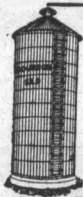


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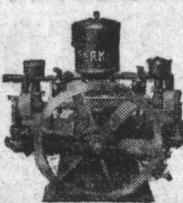
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Animal Mentality and Rabies

There are a good many who have given to our domestic animals a considerable attention and study and yet overlook the important fact that the natural bent of the mind of each animal has much to do with the symptoms manifested when suffering from diseases that prey upon all kinds of our live stock, notably the rabies. Still farther, some say that animals do not have any mind in a degree worthy of consideration.

In consulting many different authors on the subject of rabies resulting from a mad dog bite, some eminent in the profession of veterinary science, refer the reader for symptoms in cattle to those described when speaking of the symptoms as manifested by horses. Such is an egregious blunder that has, in the past, and is likely to in the future, cause a misapprehension as to the real difficulty with which the practitioner has to contend, and subject communities to great danger from loss of stock and also loss of human life.

The fact that animals manifest a great degree of mentality, is so well understood by those who handle them every day, that no one who makes any pretensions at intelligence ought to venture a denial. The fact that the dog and the horse have an acute mentality, which will enable them to perform remarkable feats, is also well known. I remember seeing a horse take a chalk stick in his teeth and write down on a blackboard figures, answering problems propounded by strangers in the audience.

Dogs have keen perceptive, see at a glance what is being done and draw conclusions as to what they should do very quickly. The shepherd dog can distinguish as to numbers and can bring into the flock the number of sheep mentioned by the shepherd. In general dogs are faithful and obedient servants. Dogs are descendants of the wolf and jackal and inherit from their ancestors great mental acumen. When afflicted with the rabies they seem to revert back to the mental conditions of their ancestors and manifest a disposition of cussedness and destruction during the frenzied paroxysms, much like the natural disposition of their wild ancestors. Biting is a mania with them, except when afflicted with the dumb rabies.

With the horse, he manifests a different line of symptoms which are distinctly his own. He becomes restless, refuses feed; at times manifests nervousness, trembles, breathes hard, paws, reels around and falls down, and after a severe struggle rises, seemingly collected until he is again seized by another paroxysm or fit. He is often ugly, bites, foams at the mouth and snorts, repeating his round of furious manifestations until exhausted, and finally dies.

With the cattle the symptoms differ greatly. Their inherent bent of mind leads them to manifest their misery in a different manner. After passing the period of "incubation," the disease comes on, the animal refuses food, stands away from the herd in a kind of stupor, with eyes half closed, breathes naturally, but the pulse is quickened and yet the temperature is natural. A slight noise will agitate, causing the eyes to glare and exciting bellowing as though distressed, at first strong and breaking into a weak falsetto. The sight of a dog or hearing one bark will set them in a rage and will renew the peculiar howling. The animal tries to walk but staggers. Saliva falls from the mouth and as the disease advances foams and froths at the mouth. If offered water plunges the muzzle in but can not drink. Repeats the paroxysms until exhausted and dies.

Notice the difference in the manifestation of symptoms: The dog and horse bite to manifest their mental condition. The cow stands in a stupor until crazed and then rushes at any living thing to hunt or hook. The cow does not try to bite. The dog howls, the cow bellows and moans. The horse has fits, or convulsions. The dog has bloodshot eyes, the cow has glaring eyes. The horse trembles, the cow sways and becomes stiff when she attempts to walk. They all foam or froth at the mouth during the advanced stages.

The Nature of the Disease.

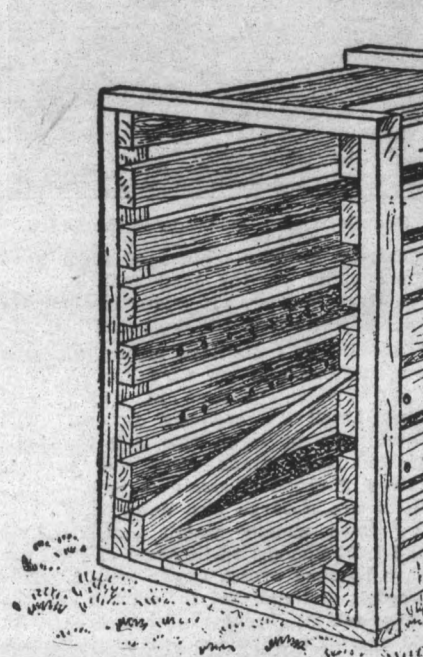
Authorities do not agree as to the nature of the disease, but there are some things we know: The disease is communicated from one animal to another by the virus carried in the saliva of the rabid animal and the secretions such as the milk, and possibly the meat. The

minute micro-organisms get lodgement in the tissue of the animal inoculated by a bite, or getting the saliva on a spot where there is an abrasion of the skin, and apparently remains there during the period of incubation, which varies from seven days to a year and a half. After these minute protozoa have hatched, they seem to be carried by blood circulation to the brain of the animal, and also operate in the submaxillary glands and sublingual glands the irritation causing a liberal flow of saliva. While there are manifestations of thirst, it is impossible for the animal to swallow.

At the beginning of the disease animals have an abnormal appetite and will eat wool, hair, cloth and other indigestible articles, which fact misleads the uninformed to believe that it is a case of indigestion. Post mortem examinations have revealed the fact that the processes of digestion were suspended soon after the disease became developed.

Reasons for Revealing the Facts.

I have been induced to offer these hints



BREEDING CRATE.

We reprint the description and illustration of a crate described in Farmers' Bulletin No. 205. The best size is 6 ft. long, 2 ft. 4 in. wide, and 2 1/2 ft. high. It is made of 2x4-inch scantling, closed in front and open behind. On each side nail a 2x4-inch strip, reaching from the bottom at the rear end to a point about 14 or 16 inches from the top at the front end for the boar to rest his feet on. The holes in the side cleats are for an iron rod to run through, just behind the sow's hock joints. The cut shows the bottom boards put in lengthwise. If put in sideways, the boar will not slip so much. Light slats nailed crosswise will prevent slipping.

FEEDERS' PROBLEMS.

Alfalfa for Hog Pasture.

I have a hilly field which is difficult to cultivate and would wish to sow this to some permanent hog pasture. Would alfalfa do, or would the hogs kill it? If alfalfa is not suitable for this purpose, what could be used?

Ingham Co.

A. S.

There is no plant so well adapted to a permanent hog pasture as alfalfa. It

in regard to the dread disease, on account of misapprehensions of the actual symptoms in a case near where I live. One cow after another was taken and died, the owner not knowing what the disease could be until the fourth one was sick and I was applied to. I at once pronounced it a case of rabies, the brain was sent to Ann Arbor to the Pasteur department and it was found that my contention was correct.

Some facts should be borne in mind; Each and every class of animal has their own method of manifesting symptoms when afflicted with rabies. There is always great danger from communicating the disease to other animals, as well as men, when there is a rabid animal around, hence the necessity for disposing of the animals at once; burning is safest and best. Do not let any feed be given to other animals that has been near the diseased animal, for if the saliva falls on it there is danger of the animal eating it, getting inoculated with the virus. Do not handle the diseased animal, dead or alive, with bare hands. Always have the hands covered, as any little abrasion of the skin may take in the virus and serious results follow. Do not use the milk from a rabid animal even in the first stages, nor feed it to other animals. Do not let dogs consume the carcasses of animals that have died of the disease as there is a possibility of their scattering the disease.

Every farmer should become familiar with the symptoms of the disease in all classes of stock, so as to be able to detect it at its first approach, to prevent loss of valuable animals and endangering human life. The United States Department of Agriculture has issued Farmers' Bulletin 449 on the subject, and it contains much valuable information. Cultivate the habit of scrutinizing every strange dog that comes along to see if he has any symptoms of rabies. To see that the local sanitary boards enforce the muzzling of all dogs allowed to run at large in an infected area, and destroy all dogs not muzzled, would do much toward stamping out this dreaded disease, which is destructive of property and a menace to human life.

Wayne Co.

N. A. CLAPP.

should have, however, intelligent handling to succeed as a permanent hog pasture. The plants would be injured by overstocking the pasture and thus keeping the growth down and not permitting it to develop an abundant leaf surface. The right way to handle an alfalfa hog pasture would be to have it divided into two or three fields, keep the hogs off until it gets a good growth then turn them in without overstocking the pasture and when the new growth begins to show at the crowns of the plants take the hogs off and cut the alfalfa which is left for hay. If properly managed they can be turned from one field into another in this manner and have an abundance of the very best pasture at all times without in any way injuring the alfalfa which makes such an abundance of forage that when managed in this manner it will furnish feed for a larger number of pigs than any other crop, however closely pastured.

Grain Ration for Horses.

Which would be the more economical grain ration, with clover hay, for horses doing general farm work; to buy oats at 45c per bu. to feed with corn, which I have, or to get the corn ground and feed with bran and cottonseed meal or oil meal? Please give me a balanced ration.

Van Buren Co.

M. N.

While corn and oats and clover hay will make a very well balanced ration for work horses and perhaps a more wholesome one than one which can be made up with the other feeds mentioned, yet very satisfactory results can be secured from them. The writer has used a grain ration composed of 600 lbs. of corn, 100 lbs. of oil meal and 100 lbs. of bran even where some oats were added, using as few or as many oats as desired, which makes a very well balanced and satisfactory grain ration for work horses. Cottonseed meal could be substituted for the oil meal and bran, but would not be quite as wholesome a feed although a little cheaper at the prices noted. Cottonseed meal, being richer in protein, could be used at the rate of one pound to six pounds of corn to give a well balanced ration, but while well balanced from the standpoint of nutrients, the writer prefers the oil meal as a factor in the ration because of its beneficial effect upon the digestive system of the horse.

FEED FOR UNIFORMITY IN THE LAMB CROP.

Uniformity in the growth and development of the lamb crop is of much greater importance than generally considered by the average flock owner as the amount of profitable gain and the market value is largely dependent upon this essential quality. The market on every hand is demanding a more uniform quality of stock. The flock owner desiring to produce maximum gain at the most economic cost and sell at the highest market price must endeavor to produce stock that most nearly meets the market requirements. The lamb crop that comes to market maturity in the fall possessed of a wide variation in growth and physical form must be sold at a discount on a discriminating market.

To encourage the growth and development of uniformity in the lamb crop, attention should be centered on giving the lambs a good start. There are always some lambs in the flock that are well born and capable of looking after themselves, while others are more unfortunate and require additional care. Strong milking ewes have a great advantage over scant milking ewes and consequently induce their nursing progeny to make greater bone and flesh growth. Ewes that are naturally good milk producers need not be given as close attention as the ewes deficient in nourishment for their young. Not infrequently ewes are found that even on good pasture will not produce sufficient nourishment to promote rapid growth in their nursing offspring without a supplemental feeding, but such ewes are the exception and can not be taken as a guide for the management of the flock. It is the poor nursing ewes that require additional care in order to supply nourishment to induce growth as rapidly in the young as the ewes possessed of strong milk-producing tendency.

Ewes troubled with indigestion, dainty appetites or physical disorder of any nature are generally poor milk producers and should be discarded. It is a waste of time and feed to keep ewes troubled with any form of physical disorder as their lambs are generally unthrifty and impair the uniform appearance of the lamb crop.

In every flock ewes are found that possess a wide variation in milking qualities. This variation necessarily intensifies the difficulty of encouraging uniform growth in the lamb crop and may to a large measure, prove an unsurmountable obstacle. Poor milking ewes, however, can be encouraged to greater activity by proper feeding upon easily digestible food along with the pasture. Where a large flock of ewes are kept and it is noticed that a number of lambs are falling behind in growth the ewes should be separated out and turned onto another pasture where they can be given special care. It pays well during the suckling period to resort to every possible method of handling the ewes to promote uniform development in the lamb crop as more rapid and profitable gain in bone and flesh can be made while the lambs are nursing than at any other time.

Shlawassee Co. LEO C. REYNOLDS.

A LAMB SHOW AT THE LIVE STOCK MEETING.

The officers and executive committee of the Michigan Improved Live Stock Breeders' and Feeders' Association recently held their annual meeting and perfected arrangements for the twenty-third annual meeting of the association, to be held at the Agricultural College, East Lansing, January 14-15, 1914.

The topics to be discussed and speakers to handle them, were carefully gone over, as a result some of the ablest men in the country will undoubtedly appear on the program next winter.

As it is impossible, because of the limited space in the judging pavilion, to hold a show of more than one class of live stock each year, it was decided to put on a lamb show next winter in place of the barrow show held this year.

Three prizes will be offered for the best wether lambs sired by pure-bred rams of each one of the following breeds: South-down, Shropshire, Hampshire, Oxford, Dorset, Rambouillet, Cotswold, Lincoln, and Leicester, making in all 27 prizes to be competed for by native lambs.

In addition to the above three prizes will be offered for the best black-faced western lambs and also for the best white-faced western lambs.

For the above prizes the association will

put up handsome ribbons and the State Breeders' Associations, representing some of the breeds, will undoubtedly offer very liberal prizes to their breed.

For the three best lambs in the show, all first prize lambs competing, the association will give a gold medal to the first, a silver medal to the second, and a bronze medal to the third.

Following the show on foot, which will be held Wednesday, January 14, the lambs will be slaughtered and all breeds compete in a carcass contest Thursday, January 15, and for the three best carcasses gold, silver, and bronze medals will be awarded.

The carcasses will be disposed of by the officers of the association, or can be returned to the exhibitor, as he may desire. No entrance fee will be required, but exhibitors must become a member of the Michigan Improved Live Stock Breeders' Association by paying the annual membership fee of one dollar. Entries must be in by December 15, 1913.

Judges from out of the state will be secured who will pass on the merits of the entries from a market standpoint.

For further information address G. A. Brown, Secretary, East Lansing, Mich.

LIVE STOCK NEWS.

It is learned that there are a good many aged cattle in southern Texas which will be started to market by the middle of April. Grass has been good, and most of the cattle are expected to reach the markets in good condition. Probably most of these cattle will be shipped to Missouri river markets. Grazing cattle are held at such high prices throughout the southwest that in all probability there will be many pastures in Oklahoma and Kansas that will not be stocked this season. In these two states stockmen are eager to purchase cows, the calf raising proposition being highly alluring because of the unusual scarcity of beef cattle everywhere.

A farmer of Elliott, Iowa, who is a large stock feeder, reports a decrease of upward of 25 per cent in the hog supply compared with one year ago, the principal cause assigned being swine disease. Some of the stock feeders are confident that many losses were due to vaccinating herds of hogs by veterinarians who did not understand their business and to the poor quality of the serum used. Numerous hogs that were vaccinated appeared to be healthy at the time, but after the serum was injected they died shortly. He added that where there is vaccinating done, all the neighboring farmers should do the same, as otherwise it is impossible to prevent the spread of the disease. In the same section of Iowa there are about 25 per cent fewer cattle than a year ago, this being due partly to the high prices attracting many immature cattle to market and in part to the scarcity and high cost of feeding cattle. In spite of the abundance of cheap corn and rough feed, many stockmen did not feel like paying almost fat cattle prices for stocking their feed lots.

While everything in the live mutton line commands higher prices than in most former years at this time, killers are discriminative in making their selections, and they pay liberal premiums for just the particular kind they are after. Fat light and handy weight lambs are the best sellers, invariably, both local packers and eastern shippers purchasing them liberally in the Chicago market and paying big premiums. Lambs of heavy weight are taken unwillingly as a rule and have to be offered at a good discount from prices paid for the lighter ones in order to effect sales. Big yearlings are also discriminated against and sell much below prices paid for handy weights on the lamb order. Weight is less of an objection in buying aged wethers and ewes because of the small proportion of aged sheep in the daily runs at the Chicago stock yards. Colorado sheepmen are now supplying by far the greater part of the lambs offered in the Chicago market, little feeding as compared with former winter seasons having been carried on in the states comprising the middle west.

Eggs are being marketed everywhere in extremely large quantities, as is usual at this season of the year, and they were never better in quality. Furthermore, they are low in price, and their cheapness commends them to general favor at a period when they can be bought at so much lower prices than beef, mutton, cured hog meats and poultry. Holders of cold storage eggs in Chicago have been making strenuous efforts to dispose of their accumulations put in many months ago, and to accomplish this, they are compelled to resort to very low prices. When April opened such holdings aggregated 37,400 cases, compared with 56,000 cases a month earlier and only 5,000 cases a year ago. Stocks of cold storage butter in Chicago warehouses on April 1 amounted to 2,493,000 lbs., compared with 4,783,000 lbs. a year earlier. Prices for butter are weakening gradually, and storage lines are offered especially low in order to stimulate sales.

The recent vote on amendments to the Chicago Live Stock Exchange rules resulted in adoption of amendments applying the three o'clock closing rule to all live stock except cripples and downers and allowing agents of Chicago commission firms to register and visit sheep feeding stations within 75 miles of Chicago only for the purpose of preparing for shipment.



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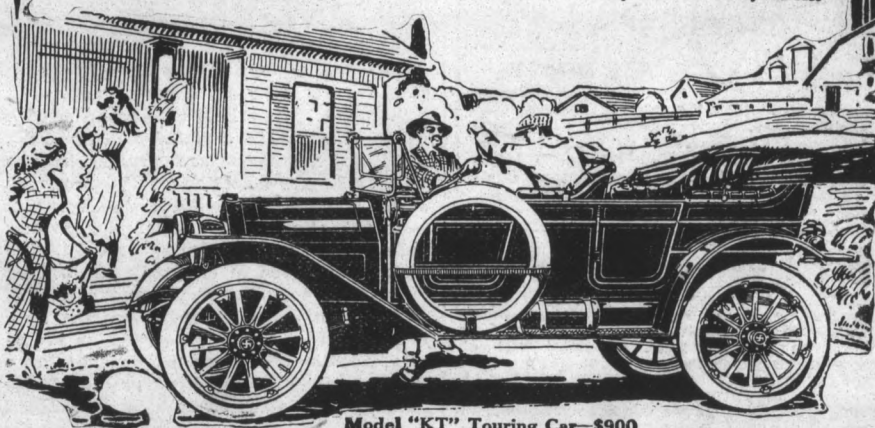
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WHITE CAP DENT CORN—Fire dried, 96% germination, \$2.50 per bu. Bags free. Yield 120 bu. per acre. GEO. E. LAPHAM, R. 8, St. Johns, Michigan.

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For Sale—Green Mountain Potatoes, fire-dried. COLON C. LILLIE, Coopersville, Mich.

SEED CORN—Michigan grown Early Yellow Dent. Tested over 90%. \$1.50 per bushel. Address ED. HEITHE, R. No. 4, Pontiac, Michigan.

Silverhull Buckwheat—choice northern grown, 50c per bu. Bags free with each 2 bu. order or more. M. GIDDINGS, Fife Lake, Mich.

Horticulture.

REJUVENATING FRUIT TREES BY TOP-WORKING OR GRAFTING.

For a number of reasons it may become desirable to change the tops of old trees that are healthy, but which are not giving the satisfaction they should, and the best method of doing this is by top-working. We may wish to change the variety, to lower the top, to build up one side of the tree that has become barren of limbs, or what is more frequently the case, to bring a fruitless tree into productivity. These ends we may attain through top-working or grafting.

Securing Scions.

Scions, the portions of a plant cut off to be placed in conjunction with other plants to which they are expected to grow, should be secured in the fall generally when there is danger of winter killing, or any time during the dormant period of the tree from which they are taken, if such danger is not present. They should always be made of last year's growth of wood, and are usually cut about eight or ten inches long. Since the resulting growth will partake of the nature of the scions, it is well to select them from a tree that is in the habit of producing abundant fruit of a desirable quality, and also from such portions of that tree that may be known to produce the fruit, as it frequently happens that some limbs of a tree are barren, or grow little fruit, while others are very productive.

The time to do the grafting is nearly upon us. It may be done at any time during the spring before the sap begins to flow and it is ordinarily done about the time the trees are pruned in the spring. In the selection of the branches which should be top-worked, care and judgment should be exercised. Do not make the mistake of trying to do all the work on the tree in one year. It will be found best to take about three to five years to change the entire bearing surface of a tree to the variety which is desired. Fruit raisers agree that too vigorous pruning or cutting away of limbs disturbs the balance which is maintained between the top and roots and damages the bearing capacity of the tree. Remember that the scion which you will graft in will not grow in the direction of the original branch but will have a tendency to grow upward; hence, select branches well away from the trunk and graft the principal ones. It is safer to graft too many branches and then to cut out some of them in after years than to graft so few branches that the bearing area of the tree will not be all utilized in fruit production.

Cleft Graft is Generally Used.

In making the cleft graft, the best results are obtained when branches between one and one-half and two inches in diameter are used. The great pressure which is exerted by a stub of larger diameter seems to be detrimental to the fast growth of the scion which is inserted, probably because the pressure destroys or mutilates the tissues which carry the nourishment to the scion. Cut the branch off with a pruning saw and be careful not to tear or loosen the bark on the stub. When a coarse saw is used, the callousing of the stub will be hastened if the bark and end of the stub is dressed with a sharp knife. There are many designs of grafting knives on the market for making the cleft or incision. The important principle which this tool should embody is that it should be curved in somewhat the same manner as the curve between the points of two joining sections on a mowing machine knife. The purpose of the curved tool is to cut the outer portion of the stub down farther than the center. This tool is placed over the central part of the stub and then hit on the back with a wooden mallet, being careful not to split the stub down too far. A wedge is usually attached to the back of these tools and with this wedge the cleft is opened and the scions are inserted, having first been trimmed to wedges about one to one and a half inches long. One side of this wedge should be thicker than the other and this side should be placed on the outside to insure the firmness of the scion in the stub. Be sure to insert the scion right side up and not with the buds downward as the writer has seen in some cases. Now release the wedge in the cleft and the stub is ready to be waxed over. The

growing portion of the stub and scion is that white line which is readily seen just outside the woody portion and just inside the bark. The whole bark does not grow but only this white inner portion known as the cambium layer and so in order to have a successful union take place, it is necessary that the cambium of the scion come in contact with the cambium of the stub. To be sure that these two cambium layers come in contact, many successful grafters bend the scion slightly outward, thus insuring the contact of the two growing layers at some point. The places which should be waxed over are the top of the scion where the terminal bud was removed, the top of the stub which has been left exposed, and the sides of the stub which show the cracks made by the clefting tool. All exposed surfaces should be waxed over to prevent the entrance of water which would cause decay and to prevent the lodgement of fungous spores which would cause disease. Two scions are usually inserted in one cleft and if they both grow, the weaker one is cut off. This prevents the formation of a crotch. If the stub has not entirely calloused over the first year, the exposed surface may be rewaxed the following year.

Grafting Waxes.

There are many grafting waxes which may be made, but the two which give the most satisfaction and are the cheapest and easiest to apply for all-around purposes, are the ones given below.

Tallow Grafting Wax.—In making this wax, we make use of four parts of resin, two parts of beeswax and one part of beef tallow (rendered). The ingredients should be weighed out, placed in a kettle of the required size and allowed to come to a boil. It is necessary that the wax be allowed to boil for a few minutes to be sure that the materials are properly mixed. If grafting tape is desired, a roll of bandage cloth may be allowed to soak in the melted wax while if graft-

ing cord is desired, a ball of No. 16 darning cotton may be thrown into the melted wax and allowed to remain for about five minutes, or as long as it takes for the ball to become thoroughly permeated with the grafting wax mixture. After the wax is boiled, it may be poured into the pail of water which has been provided and the water and mixture should be stirred constantly until it is cool enough to pull, when it may be taken out and pulled like taffy until it is a light yellow color. It may then be made into rolls, wrapped in oiled paper and stored away for further use.

Cautions to be observed:

1. Grease the hands well before pulling the wax.
2. Letting the wax boil for 10 or 15 minutes seems to keep it from sticking to the hands.
3. Do not pour the wax into the water rapidly. This may cause it to run over by the sudden contact with the water. Pour in gradually, stirring the water and wax in the pail at the same time.

Careful observance of the foregoing directions should not fail to give a high quality of grafting wax.

Linseed Oil Grafting Wax.—In making this wax we use one pound of resin, one-fourth pound of beeswax and one-fourth of a pint of raw linseed oil. The linseed oil should be unadulterated and free from cottonseed oil, if the best results are to be had. The ingredients are placed in a kettle of the required size and allowed to come to a boil after which the operation is the same as with the tallow grafting wax. This formula gives a wax that is softer and more easily applied in cold weather, which is a great advantage in some cases.

The ingredients used in the grafting wax are inexpensive. The scions are easily procured and all the work may be done by the ordinary schoolboy of 12 years, if he understands the underlying principles. This, taken together with the efficient manner in which the practice of top-working solves some of the many problems of the horticulturist, seems to commend it as a practice which should be more generally employed by fruit raisers in the future than it has been in the past.

Ingham Co.

I. J. MATTHEWS.

HINTS ON CURRANT CULTURE.

During an experience of ten years entirely with small fruits, principally in this state, the writer has learned many traits as well as valuable data regarding the culture of them. At this season of year, currants should receive proper attention. No fruit, especially small fruit, is in such demand or more popular for jam and jelly, than currants, and they are an easy money crop, too, if handled properly. The currant gets its growth early in the season and, unlike most other fruits, requires cultivation very early, and not much, if any, culture should be given after fruit is set.

For home fertilizer nothing excels unleached wood ashes. Thoroughly rotted stable manure is excellent but usually the abundance of weed and grass seed it contains means ceaseless vigilance to keep it from among the stems or canes. For years I made it a practice to mulch with straw all around them and between the rows, but as a rule this is an incentive and breeding harbor for pests. I found that intense early cultivation, coupled with wood ashes at the rate of 500 lbs. per acre, broadcasted and cultivated in, early in the spring, literally bent them down with the nicest fruit imaginable.

As the currant feeder roots occupy a position near the surface, deep cultivation near the bushes should be avoided. If the soil is clean, nothing beats the spike-tooth or sugar beet cultivator to stir the ground between rows. I make my rows eight feet apart, with the plants three to four feet apart in the row and leave from eight to 12 canes to each hill which distances, under good clean culture on good soil, will permit the plants to completely fill the long way of the row and to crowd within two or three feet the other way.

For Michigan soil and climate Fay's Prolific, Red Cross and the White Victoria currants did best for me. Fay's Prolific is a large-sized berry, as large as small cherries, of a dark clear red color, sparkling, acid, with few seeds for its size and of unequalled flavor, but it is no berry to place in a novice's hands; must have rich soil and best of attention to do well, when it is a money berry. Red Cross comes very near Fay's Prolific in size, not quite as well flavored but an immense yielder under ordinary good culture; stands shipment well and one of the best market sorts. The White Victoria

is a clear, transparent white currant of the size, under good culture, of the Cherry currant, but larger and longer in bunch and a currant hard to equal in productivity. All currants, except some black varieties, of not much account, are acid by nature but the Victoria, when fully ripe, comes the nearest to being sweet, of any other varieties of good currants I have grown. They are unexcelled for home use and are a splendid market sort after customers learn their good qualities.

Currants, like grapes, may be propagated easily by anyone; simply cut eight to 12-inch lengths from the good sound tips of vine or cane late in the fall before freezing weather commences, and bury these in bundles of a dozen, except the tip ends, in moist sand in a box, and place in a dark, dry and frost-proof place during winter. In the spring when warm enough to work the soil, these will be found to have rooted and will grow when set properly. Grapes may be layered, so can currants for new growth. I prefer the former method as being better.

For currant worms, one level teaspoon of paris green to two gallons of water, thoroughly mixed and applied from a sprayer destroys them completely and will not injure the foliage, but do not use it stronger. Do not use the paris green after the currants begin turning; it is better not to use after fruit is half grown. Arsenate of lead sticks too much and fruit is apt to have traces of it on them in places when picked. Paris green, readily washes off after any ordinary shower, and I prefer it for currants, but not many worms will bother if absolute clean cultural methods be observed.

Gratiot Co.

G. A. RANDALL.

MAY MEETING OF OAKLAND HORTICULTURAL SOCIETY.

The Oakland County Horticultural Society will hold its next meeting at E. J. Ver Duyn's fruit farm near Novi, on Saturday, May 3. The meeting will open at 10:30 a. m., standard time, and after a short business session there will be a talk on "Orchard Cultivation," with discussions, and "My Problems," by the host. Lunch will be served at 12 o'clock, after which Mr. O. K. White, of the M. A. C., will give a lecture and orchard demonstration on "Pruning." Conveyances will be at Northville (the nearest stop), to meet all Northwestern cars from Pontiac or Detroit which arrive at Northville 15 minutes after the hour, standard time.—Sarah E. Sly, Sec.

SETTING THE STRAWBERRY PATCH.

Tree fruit raising has become a specialty but small fruit, and especially strawberries, make good side lines for either stock, grain, fruit, or dairy farmers, or for the suburbanite. Strawberries, chickens, and a vegetable garden are the first things the city farmer thinks of.

The lowly strawberry is the basis of delicacies which make the mouths of kings water. Strawberries and cream and strawberry shortcake are the main ones. On account of its adaptability to care under various conditions, the humble toiler can enjoy its refreshment.

A soil with plenty of available moisture, but not so moist that it is wet, and full of easily available plant food should be selected for the planting place. If it has considerable sod it should have been turned under last fall and thoroughly worked early this spring so as to grind and cut all of the coarse material. A fertile place on which hoed crops were grown last year is a very good spot.

Well rotted manure can be applied to advantage before plowing. Care should be taken to get manure that was made after the first of August last year, otherwise it is liable to be infested with the white grub. The white grub in a strawberry patch is one of the biggest nuisances out. Soils infested with it should

be most popular, and in most all cases the more preferable method to use.

When setting it is a good plan to carry the plants in a pail of water so as to keep them well moistened.

When one man sets the plants a dibble is the best tool to use, but when two do the planting the spade, a narrow one, is the best. One man can make the holes while the other trims the plants and sets them. The one making the holes should go back and thoroughly firm the soil around the plants. The surface of the soil around the plant should be loosened so as to prevent the evaporation of moisture. In setting, the roots should be spread out as much as possible so that they will all come in contact with the soil.

Cultivation should start as soon as possible after the plants are set and should be kept up during the season.

Any runners forming before the middle of June should be kept cut off, and all blossoms should be clipped off during the first year. This is done that the plant may use all of its energies in firmly establishing itself. The bearing of fruit is a strain on the plant and should not be permitted the first year.

Van Buren Co. FRANK A. WILKEN.

QUESTIONS ON TOMATO CULTURE.

I have for the first time contracted to grow tomatoes for a canning factory. A prize is offered for the best acre of tomatoes grown and marketed. I have a fine clover sod on a rather heavy clay loam soil to use for this purpose but there is no barnyard manure at hand to use on the field. What would be the best commercial fertilizers for the tomatoes and how much should I use of it? I have another piece of clay loam where potatoes were grown last year. The field had been in sod and was partly manured for the potatoes. I am of the opinion that this field is acid because of the abundance of sorrel growing on it. It is also difficult to get a catch of clover. Would tomatoes do better on this soil than on the clover sod, which does not appear to be acid, at least not as bad as the potato patch? If I should grow cucumbers on this acid soil I ought to apply lime to get the best results. How close should tomatoes be planted?

Van Buren Co.

V. C. S.

The probability is that the clover sod would be the better field to plant to tomatoes. From the fact that the potato field will not catch clover readily it would naturally be concluded that it is not in good condition. The abundance of sorrel also suggests the presence of an acid soil and it is the experience of tomato growers that the tomato crop will not thrive upon sour land. While excellent crops have been grown upon almost every kind of soil from the lightest sand to the heaviest clay, there appears to be a preference for clay loam, and, since this clover sod is of such quality, the argument favoring its use would therefore be strengthened.

A variety of experiences has been reported from the different experiment stations as to the proper method of fertilizing tomatoes, but the consensus of opinion seems to favor the combined use of commercial fertilizers with barnyard manure or other vegetable matter as was suggested in a recent number of The Farmer for building up the soil of the general garden. However, in the event of there being little or no barnyard manure or other vegetable matter to use, the amount of commercial fertilizers has an economical limit, i. e., one soon arrives at an amount beyond which it would not pay him to add more to the land—no increase in the production of the crop would come from the additional fertilizer. The use of a fertilizer analyzing about three or four per cent nitrogen, six per cent phosphoric acid and eight per cent potash at the rate of 500 to 600 pounds per acre ought to be a reasonably liberal feeding for this soil. If, however, about ten tons of good barnyard manure could be added per acre, much superior results could be expected.

We wish to impress upon readers, however, that soil cannot be suddenly changed from a run-down condition to a state of high culture capable of growing maximum crops by the mere act of adding fertilizers liberally; but that this desirable end is attained only by careful attention running through a number of years. This attention must not only be burdened with the duty of adding plant food of the right kinds and in the proper proportions, but it likewise includes the wise manipulation of the soil that enables the necessary changes to go on to bring prepared foods to the active rootlets of the plants.

There is much debate over the matter of distances to plant tomatoes but for the commercial field setting them every four feet in rows five feet apart is satisfactory to most large producers and generally recommended by them.



Correcting a High and One-sided Top.

not be set. Nothing can be done for it except to dig after it when its work, dying plants with roots cut, is seen.

The soil on which the patch is to be set should be put into good tilth as early in spring as possible. The early set strawberry patch is just as desirable as the early set hen. Both bring the biggest returns in the end.

The nearer home that the plants can be had and the shorter the time intervening between the digging and the setting, the better the plants will do. Pedigree plants will not give pedigree results under scrub care any more than would a pedigree cow. Scrub plants may almost give pedigree results under pedigree care. It is advisable, however, to get the plants from a good healthy patch.

If possible, do not have it so that it will be necessary to heel the plants in for any length of time. It is far better to immediately trim them up and set them.

The trimming should consist of cutting back the roots slightly and cutting off all the leaves except the last or newest one.

The distance for setting plants depends upon the system and the variety used. For the narrow matted row the plants should be set about two feet apart in rows which are three and a half feet apart. Varieties which are not good plant makers should be set closer together in the row.

For the hill and hedge row systems of culture the plants should be set from one foot to one foot and a half apart in rows a foot and a half to two feet apart. For the wide matted row the rows should be four feet apart.

The hedge row and hill systems should be used when the growing of fancy fruit is the aim, and are preferable for the varieties which make few runners.

The narrow matted row is by far the



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PROFIT IN RAISING PEKIN DUCKS.

As a market fowl, the Pekin duck has no superior. Anyone can engage in the duck business, in a small way, with very little capital and few buildings, providing the location is suitable, and build up a profitable trade. Young ducks bring good prices in almost every market, and in spring there is always a good demand for eggs to hatch. There is such a demand here that I never have been able to furnish enough to go around, although I keep a flock of 50 (40 ducks and 10 drakes) to furnish eggs for hatching purposes.

Pekin ducks are easier to raise than chickens. They grow faster than any other domestic fowl that I know of. They are enormous feeders but they gain in weight in proportion to the amount of feed consumed. You can almost see the ducklings growing. If properly fed and cared for they will not be bothered with lice or disease. Of course, they are neither louse-proof nor disease-proof, but if given a fair chance they will live and thrive, and will grow into money rapidly.

Facts for the Beginner.

Those who wish to purchase eggs should go to someone as near home as possible. I have had some good hatches from eggs that had been shipped 200 miles, over one railroad; and some very poor hatches from eggs shipped 500 miles over several railroads. Duck eggs will not endure careless handling as well as hens' eggs, because the albumen is so much thinner. And there is still another important point to be considered: When a Pekin duck egg is 10 days old it is worthless for hatching purposes. I never use or sell the eggs for hatching when they are over seven days old. This rule is strictly adhered to and poor hatches are rare. About 95 per cent of the eggs hatch. Of course, the eggs are not too old for table use at this age, but for hatching they must be fresh—not over a week old—the fresher the better.

The Pekin duck is a non-sitter. Unless the business is to be conducted upon a large scale, chicken hens should be used to do the hatching, and only large, heavy hens are suitable. It takes the eggs 28 days to hatch as a rule; sometimes a little less and occasionally a day or two longer.

Great care should be taken to keep down lice. If the hen is lousy the ducklings will be. A good powder, dusted into the nest material and upon the hen, is recommended. I used to imagine that young ducks would not get lousy, but I was mistaken. They will get lousy if there are lice on the premises, unless one is very careful. However, a few lice will not always prove fatal. In an equal race, the duckling will win, but it is best not to take chances. It is the same with goslings.

If one wishes to raise ducks on a large scale it will be necessary to choose a good location, put up suitable buildings, fence in a number of yards, and sow crops to be used as green food—such as clover, rye, alfalfa, grass, etc. Green stuff not only helps to reduce the feed bill, but is absolutely necessary. If ducks are kept on a highly concentrated ration, disastrous results will follow. Therefore, plan to have plenty of green stuff. A Pekin duck likes the "greens" mixed with the mash. The green food in this way adds bulk and helps to keep the ducks in good growing condition. A half-fed Pekin duck is an unprofitable fowl. A well-fed, well-cared for Pekin is both beautiful and profitable.

Pekins and Runners Compared.

These ducks are too well known to require description here. It might not be amiss to say that the small white duck that is sometimes mistaken for the genuine Pekin is not a very profitable bird, compared with the mammoth Imperial Pekin, which can be seen in all the large eastern markets and in all the duck yards on Long Island. I wish to say here that I have neither eggs nor ducks for sale except to home buyers. I have not shipped any of either for several years past.

I keep Indian Runner ducks for laying purposes, but they are kept separate from the Pekins. The Indian Runner likes free range, while the Pekin sits around and waits for his feed. Of course, the Pekin, both old and young, needs some exercise and the old birds should have plenty of exercise, especially during the laying season.

But a stream or pond of water is not necessary. They enjoy it, however, and if there is a creek or swamp within reach they will surely find it. While it may be an advantage to the matured birds, I find that the young grow much faster with only enough water to drink. This must be deep enough to cover their eyes and must be changed frequently, that is, five or six times a day, at least. I have raised ducks both ways and find that the reason the young ones do not thrive so well when they have a swimming pool is that they spend most of their time swimming and paddling. If it is very cold, they are liable to take cramps. Taking everything together, they are, as a rule, a great deal better off on dry land.

The best place for a duck ranch is where there is good drainage, a light sandy or gravelly soil being particularly well adapted for ducks. They consume great quantities of sand.

Duck houses can be built of cheap lumber. They are usually lower than other houses and therefore less material is required. I know of one large duck ranch where there is only one house. It extends from one side of the premises to the other and is divided into sections by the use of wire netting.

Unless the conditions are very favorable, it is not a good idea to begin raising ducks on a large scale. That is, one should consider every side of the question, such as shipping facilities, distance from market, etc. Beginners should go slow. Those who have never raised ducks should begin with a few. While ducks are easily raised, they are also easily killed. A neighbor killed a fine lot of young ducks last year by feeding too much whole grain. Another beginner did not know that ducklings needed sharp sand and consequently lost a large number. This is not meant to discourage anyone, just a mild hint for beginners to "make haste slowly."

Duck raising seems to be the most fascinating branch of the poultry business as viewed by the thousands of recruits who enter the ranks every year. Some succeed, while others fail. Those who take up the work, "by guess" usually quit in disgust, at the close of the first season. Those who begin in a small way and learn as they go are the ones who usually stay with the business. Experience is a valuable asset, if it does not come too high.

Fruit growing goes well with duck raising. Tree fruits do well when planted in duck yards. Bush fruits or small plants are not suitable for such places. I have fruit trees in all of the yards. These were planted several years ago and nearly all are old enough to bear. Some of these have borne several crops. These are mostly peach trees. Apples are slower, but the trees are making fine growth and they furnish plenty of shade. Ducks must have shade in warm weather. The ducks are a decided advantage to the trees, enriching the soil so that no other fertilizer is required, and they do not injure the trees at all.

There is no reason why any person of ordinary ability should hesitate to try duck raising as a side line. They may be successfully hatched by either hens or incubators, but nearly every beginner prefers the former. I have hatched them both ways and each method has its advantages.

A great many people nowadays are becoming more interested in ducks for laying purposes. As stated above I keep Indian Runner ducks for eggs alone. They are small as compared with the others and are small feeders. A young Pekin will eat more than four Runners. The Pekin lays a large egg while the Indian Runner lays an egg about the size of the average hen's egg. A Pekin duckling can be made to weigh 6 lbs. when 10 weeks old. Very few Indian Runners will weigh that much when fully matured. The Pekin is the market duck, while the Indian Runner is the "egg machine."

Ohlo. ANNA W. GALLIGHER.

Don't produce poor looking comb honey, or extract any from combs before they are capped over.

Don't allow drone comb in any hive, except one or two which you use for your choice breeding queen. There is no profit in keeping a colony which supports a large percentage of drone comb.

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Practical Science.

ACCESSORIES TO FOOD PRODUCTS. Spices.—(Continued).

BY FLOYD W. ROBISON.

What Causes the Bite in Pepper?

The peculiar biting, smarting, pungent taste of pepper is due largely to the essential oil which it contains. This oil has a formula identical with the formula of turpentine, C₁₀H₁₆. Another constituent of the berry which contributes pungency is a substance known as piperin, which is a nitrogenous product having the formula C₁₇H₁₉NO₃. Pepper contains also, a considerable amount of starch.

Standard for White Pepper.

The standards for pepper, adopted by the Association of Agricultural Chemists, are as follows:

For white pepper, not less than six per cent non-volatile ether extract.

Total mineral matter not to exceed four per cent.

Crude fibre not to exceed five per cent.

Starch, not less than 50 per cent.

Standard for Black Pepper.

Not less than 25 per cent starch.

Non-volatile ether extract, not less than six per cent.

Total mineral matter, seven per cent.

Crude fibre not to exceed 15 per cent.

Pepper Adulterants.

The main adulterants of pepper have been pepper shells, ground olive stones, buckwheat middlings and foreign starch products, such as corn meal, rice, turmeric, charcoal, etc. As stated in the beginning most of these adulterants may be detected with the aid of the microscope by one familiar with the appearance of these materials.

Chemical analysis will show many samples of adulterated pepper to consist largely of pepper shells, which would be determined by the high content of crude fibre, and by excessive amount of dirt and dust which would be detected mainly by determining the mineral matter which would be much higher than in pure pepper.

A Peculiar Instance of Adulteration of Whole Pepper.

We stated early in this discussion that the whole pepper was not very susceptible to adulteration. In spite of this, however, we have seen a number of samples of whole black pepper which were adulterated, the adulterant being dirt, and a sort of starchy paste. Our attention was first attracted to this by observing that a large quantity of the whole black pepper did not exhibit the crinkly appearance which is characteristic of the dried berry, and upon placing several of the berries in water, we observed that after a few moments, the water loosened a substance which, with slight agitation, fell to the bottom of the dish, leaving the berry in its crinkly condition. It seems as though the adulteration of the whole product in this way would be unsuccessful, but evidently the adulterator figured that the consumer in general was not familiar with the appearance of the berry, or else the purchaser paid so little attention to the berry when buying that the adulteration was not noticed. We do not believe that this is practiced to any extent at this time, though the food officials must keep their eyes open for this form of fraud.

Red Pepper.

There are a variety of products which are considered under the heading of red pepper. Following the U. S. Standards in this matter, we regard red pepper to be any one of several varieties of the genus capsicum which botanically belongs to the solanum, or night-shade family. Its natural habitat is in the tropics where it flourishes very luxuriantly, but various types of the species may be grown in the temperate climates. The red pepper of commerce is either the whole, or finely ground ripe dried fruit of the particular genus to which it belongs.

The more important species are cayenne, pimento, capsicum and paprika. The cayenne pepper is generally considered the most pungent and biting. It has an average analysis of approximately the following:

	Per Cent.
Water	2 to 5
Mineral matter (ash)	5 to 9
Fixed oil, trace to	1 1/2
Volatile matter	17 to 27
Fiber	17
Protein matter	12
Non-volatile ether extract	15 to 19

The leading varieties of cayenne pep-

per are Japan and Zanzibar, distinguishable in appearance by their color, Zanzibar being duller and lighter than Japan. The active principle of red pepper is an alkaloid known as capsaicin. This seems to be dissolved in the oil, and is usually more abundant in the pod than in the seed.

Adulteration of Red Pepper.

Red pepper has been considerably adulterated, but the adulteration is of a more scientific nature than as in the case with black and white pepper. The oil of red pepper is a very characteristic constituent, and the coloring matter, likewise is a very characteristic constituent. So the adulteration of red pepper, to be performed with any degree of success at all necessitates the adulteration of the oil and color. Of course, the usual adulterants of pepper are found also, such as starch from corn and wheat, ground cracker and bread crumbs, etc. But these ordinary forms of adulteration are not difficult to detect by one familiar with the use of the microscope, and especially by one familiar with the structure of this class of product. Such products as red wood have been used to intensify the color, and also the use of some such spices as turmeric, which, while it is a spice itself is used to the greatest extent as coloring matter to further enhance the color of some other product, or to cover up the use of some other adulterant.

Detection of Artificial Color.

The detection of such colors as coal tar colors and added vegetable colors require some considerable analytical skill. In fact, the isolation and identification of color has been one of the most difficult tasks of the analyst in food and drug analysis. Methods are now at hand, however, which, when in the hands of careful analysts, yield very reliable results. Too much emphasis, however, cannot be placed on the fact that much error creeps in and much injustice is frequently done to manufacturers by chemists and analysts who, having very little training and experience, follow set methods and make interpretations based on particular set color tests and on the variation of the analysis from maximums and minimums which are recorded in books. In food analysis, the averages and maximums as well as minimums depend largely upon the scope and the opportunity of the analyst making the examination. By stating, therefore, that a product is adulterated because it has a higher ash content than is recorded in the text, or because it has a lower percentage, or even higher percentage of volatile or fixed oil is placing the analyst in a very precarious position, and which is still worse, subjecting the distributor or manufacturer to possible unjust prosecution in the courts. An analyst, in charge of such work should be a man of training and experience.

The use of foreign fixed oils is another source of adulteration in red pepper. Aside from reinforcing the oil content of the pepper, the fixed oil serves likewise to intensify the color. The detection of fixed oil depends on the utilization of the usual method for examining for oil, as the determination of iodine number, refracted index, etc.

Turmeric.

As we have already stated, turmeric is used as a spice, and particularly in the whole condition, unground. It is found frequently in mixed pickles and is used in the preparation of certain flavors, peculiar to turmeric. Turmeric is not used in the largest sense, however, as a spice itself, but is used as an adulterant of other spices and frequently to give color to such as mustard. It grows naturally in the tropical regions of the east, and belongs botanically to the same family as ginger.

The Yellow Color Gives it its value as an Adulterant.

It contains a fixed and volatile oil, and a yellow color matter known as curcumin. Turmeric is quite readily identified by means of the agent which turmeric itself is used to identify in other food products. This is boric acid. Turmeric is one of the best indicators we have for detecting boric, or boracic acid, which is one of the chemical preservatives. Conversely, therefore, we would expect that boracic acid would be an excellent agent to indicate the presence of turmeric, which is true. If a spice or mixture is sus-

pected of containing turmeric, the spice will be extracted with alcohol, and a small piece of filter paper soaked in this, which will take out the coloring matter. This paper, when dried, is dipped into a dilute solution of boric acid and again dried. If turmeric is present, the strip of filter paper turns cherry red in color, and if a drop of ammonia is placed on the paper, the color changes to dark green at once. Incidentally this very same procedure is followed in detecting the presence of boric acid, that is, a strip of filter paper is dipped into the supposed turmeric solution and the same reaction takes place.

Ginger.

Ginger is the ground root of the ginger plant and corresponds in its appearance in the market in this respect, to pepper, that is, the ordinary black ginger of commerce is composed of the whole dried root of the ginger plant. White ginger is produced by removing the outer layer, which is known as decortigating the ginger root. Ginger contains a peculiar volatile oil known as oil of ginger. The two main methods of adulteration of ginger are by the addition of dirt, whereby the ash content is increased, and by the so-called exhaustion of the ginger, by which the pungent properties are greatly reduced. A characteristic method may be invoked very successfully in detection of exhausted ginger if the product is mixed in any very large quantity. Ginger itself has a definite structure under the microscope, and here again the detection of adulteration clearly is facilitated by the use of the microscope.

Standard for Ginger.

So much adulteration with dirt and other things which we have mentioned has been performed that it has seemed wise to adopt definite standards for such products as ginger and the U. S. Standards are as follows:

	Per Cent.
Total ash not to exceed.....	8
Lime, not more than.....	1
Ash, insoluble in HCl not more than	3
Starch not less than	42
Crude fiber, not more than.....	8

According to Leach, the most common adulterants of ginger other than those we have mentioned, are wheat, corn, rice, turmeric and sawdust.

BALANCED VS. UNBALANCED RATION FOR DAIRY COWS.

Under date of July, 1912, the University of Illinois Experiment Station published in bulletin No. 159 the results of some very interesting experiments directly on the point of the balanced ration.

In a test started January 1, and continuing for 131 days, 20 cows were divided into two lots of 10 cows each. Care was observed that the two lots should be as nearly equal in milk production and other characteristics as possible.

In the experiment Lot No. 1 was given 30 lbs. of corn silage; 8 lbs. of clover hay; 4 1/2 lbs. gluten feed; 3 1/2 lbs. ground corn.

Lot No. 2 was given 30 lbs. of corn silage; 5 lbs. of timothy hay; 3 lbs. of clover hay; 8 lbs. of ground corn.

The ration fed to lot No. 1 contained 1 lb. of digestible protein to 6 lbs. of digestible carbohydrates and fats. In other words, the nutritive ratio was 1:6, a very well balanced ration indeed.

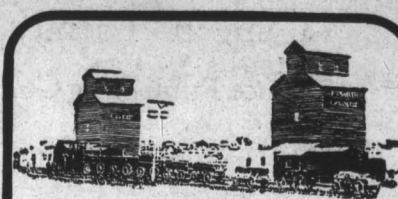
The ration fed to Lot No. 2 contained 1 lb. of digestible protein to 11 lbs. of digestible carbohydrates and fats, or in other words, a nutritive ratio of 1:11, which would be considered a very wide ration for cows producing an abundant flow of milk.

It was noticed that the cows in Lot No. 2 were not in as good physical condition at the end of the experiment and did not consume as large quantities of feed nor produce as much milk.

The total production of milk by lot No. 1 was 39,393 lbs.; by Lot No. 2, 26,839 lbs., showing a difference in milk production of 12,553 lbs. in favor of Lot No. 1 fed on the balanced ration.

At this rate 6 1/2 cows fed the balanced ration produced as much milk as nine cows fed the unbalanced ration.

The total difference in the production of butter-fat for the two lots for the 131 days was 359 1/2 lbs., and here again 6 1/2 cows on the balanced ration produced as much as did the nine cows fed on the unbalanced ration. The cows on the balanced ration consumed more digestible nutrients than the cows on the unbalanced ration but they also made better returns according to the nutrients consumed. The lot given the balanced ration, that is, Lot No. 1, consumed 12 1/2 per cent more nutrients and made 33.7 per cent better use of the nutrients consumed.



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DETROIT, APRIL 26, 1913.

CURRENT COMMENT.

We are in receipt of a letter from a young country woman who shows a commendable degree of thought upon one of the most serious and important problems of life. This lady's sober judgment apparently does not warrant her entertainment of the idea that the reward of her own or her husband's labor has been commensurate with the efforts expended and she has made the very pertinent inquiry as to why this is apparently true, and also makes an equally pertinent inquiry as to whether conditions might not be bettered through a change of occupation. This unusual letter follows:

I should like to ask, and have answered, through the columns of your valuable paper, "Why do seven out of about every ten renters of farm lands fail?" What I mean by fail is, not being able to buy a piece of land for themselves after ten years of hard work, and saving in every way, say just 40 acres?

We are young, were married and commenced farming ten years ago this spring. My husband does not drink, nor spend his money in any way unnecessary. We have had sickness, but always on my side, so that it never inconvenienced us, as far as farming went. Fifty dollars would cover all our traveling expenses. We only have the bare necessities of life in eating, wearing apparel, and working machinery. Today we stand the proud (?) owners of five head of horses, eight head of cattle and some pigs, but square with the world. Also enough farming tools to farm a 180 acre farm. "Does it pay?" This fall we are going to make a change for better or worse.

Would like to hear from someone that has had experience in buying a farm on time and from someone that is a mechanic. My husband is a natural born mechanic but has no chance to study or try his hand at the trade. He would like to go to the city and work himself up in the trade. Would it pay better than farming as we have done in the past ten years?

Would like to hear from anyone that can tell us why we have failed, and give us advice and a remedy.

When one recognizes that his efforts have not been as successful as might be desired, the best possible course to pursue is to analyze the situation and if possible determine the reason for failure. It is the best plan, however, to first look for the reason in the industry or sphere of life in which the lack of result has been noted, for some people are successful in all occupations. The inquirer recognizes this in the estimate that seven out of ten renters of farms fail to make a competence which enables them to buy farms of their own. In the attempt to determine why the seven fail there is no more pertinent line of inquiry than why the three succeed, whether by superior management—which is the most comprehensive term which might be applied to the chief factor of success in farming or any other business—whether by more fortunate circumstances, or whether at the cost of an industry and application which makes the price of success an ex-

pensive one. Then having determined the cause as far as possible by such comparison, apply the obvious remedy.

It is however, true in some cases that a natural bent or inclination along certain lines will make one occupation more attractive than another even though the material compensation may be the same or even less, and thus will give one the feeling of having attained a greater success in life. However, we are not at all certain that the result described in this letter should be considered a failure, although to this ambitious young woman it may seem so. It is a notorious fact, which has often been commented upon by business men in advising younger people, that the first thousand dollars is the most difficult one to save. It is getting a start that is hard, and the other savings on the road to material success are much more easily accomplished.

The amount of personal property which has been accumulated by this couple would doubtless aggregate considerable more than this first thousand dollars in value. Also the knowledge which they have gained in the conduct of a farm and the business experience which they have enjoyed is an equipment which represents considerable added capital so far as earning power is concerned. It is also not improbable that had this same couple lived in a city where living expenses are high and had this young man been employed in an industry as a mechanic, that their saving might not be as great as it is at present. In fact, we believe that more than seven out of ten of the average young people in the city do not make a greater gain in a financial way during the first ten years of their experience.

Let us for a moment analyze some of the statistics which are available as to the compensation of this class of workmen. The report of the Commissioner of Labor for 1912 shows that in 2,126 factories inspected in Detroit there were employed a total of 109,345 men with an average daily wage of \$2.61 per day, which would be equal to \$15.66 per week. When the high cost of city living is considered it is doubtful whether even with economy the average young couple would do better than is described in this letter. The trouble is that when we have not succeeded as well as we think we ought we compare our lot, not with that of the average in other occupations, but rather with the more successful or more efficient in other occupations. If we will compare our success with that of the most efficient of those in our occupation we will find the same difference.

Success is not a matter of occupation but of efficiency and while it is true that a person may, because of natural temperament or inclination, be more efficient in one line of work than another, success is after all a matter of efficiency, and our efficiency can be to no small degree increased by personal inquiry and effort such as the writer of the above letter has determined to make.

Tariff Legislation and the Farmer.

Following up the study of the proposed tariff legislation as represented by the Underwood bill now before Congress, we will refer to some of the proposed tariff changes as indicated in the published reports of the schedules contained in this bill. The primary object of this bill may be considered to be for the benefit of consumers rather than producers. This being true, the heaviest cut in duties is naturally made on agricultural products and manufacturers of same.

Reference has been made to the placing of raw wool on the free list and the gradual reduction of tariff on sugar to a free basis in a period of three years. Other products in which Michigan farmers are interested will, according to published reports, be placed on the free list. Among these is potatoes, which crop is an important factor in Michigan agriculture. In the items of reduction there are also some which are very important to Michigan farmers, among which is the proposed reduction in the tariff rate on beans which it is proposed to cut nearly in half.

There are also considerable reductions in the duties on live stock, horses being reduced from 25 per cent to 10 per cent; cattle from 25.07 per cent to 10 per cent; sheep from 16.41 per cent to 10 per cent; hay from 43.21 per cent to 26.67 per cent; poultry from 13.10 per cent to 6.67 per cent; eggs from 36.38 per cent to 14.29 per cent, etc.

With regard to the effect of these proposed changes, if they are enacted into law there is bound to be a great difference of opinion. In the matter of pota-

atoes, there is probably no doubt that in some seasons the proposed change would make a considerable difference in the market price of the staple in this country, although in a year like the present one when price levels are low on this side this would probably not be the case. In the next important staple, beans, it is claimed by the bean jobbers that the proposed reduction in tariff would result in letting in large volumes of beans from Japan, Manchuria and Hungary, which are great bean producing countries. This, however, is largely theoretical and the duty retained upon this Michigan staple may provide more adequate protection than is anticipated.

So far as live cattle and horses are concerned, no country is at present in condition to send them to the United States in quantity. In the matter of refrigerated beef, however, the Argentine could help supply our market to a very considerable degree under the proposed free meat clause, although it is obvious that this would not be done at a point below the world's price level, to which point American meats have only recently attained.

Also in the proposed tariff changes there are compensating reductions on necessities which farmers purchase. For instance, agricultural implements, fertilizing materials, lumber, binder twine, boots and shoes, harness, nails, etc., are made free, while substantial reductions are made in other manufactures, particularly on woolen and cotton goods and clothing made from same. Blankets are reduced from 72.69 per cent to 25 per cent; flannels from 93.29 per cent to 30 per cent; yarn from 79.34 per cent to 20 per cent; ready-made clothing from 79.56 per cent to 35 per cent; women's and children's dress goods from 99.77 per cent to 35 per cent; carpets from 60 and 82 per cent to 20 and 35 per cent.

As before noted, Michigan people are not in a position to exert any substantial influence in the shaping of this tariff legislation. Also, as before noted, it may be very much modified before enacted into law as the dominant party majority in the Senate is so small that sectional producing interests are bound to receive more consideration than will be the case in the House. Undoubtedly this bill is an honest attempt on the part of democratic leaders to carry out party pledges in the interest of the people as a whole, but like all legislation of this kind it is largely a matter of experiment based upon assumed rather than exact knowledge of problems and interests involved.

In the meantime, however, there is no occasion for premature apprehension in the matter. It will be time to adjust our business to changed conditions when we find that tariff changes seriously affect conditions along the line of production in which we have previously been engaged. The fact that world consumption has practically overtaken world production should be taken into consideration, since tariff changes can only influence the law of supply and demand in its local application.

The Legislative Session.

This week will close the active work of the Legislature, unless it should be found impossible to get the essential work disposed of and the date which has been set for the cessation of business, which is April 26, be further extended. This, however, is improbable, as last week each House disposed of the important bills before it for consideration and this week is being devoted to the consideration of important bills which originated in the opposite House by each branch of the Legislature. So much business has been disposed of by the two branches of the Legislature which has not yet been acted upon by the opposite body that it is impractical at this time to give any comprehensive review of the work of the body. As these matters are finally disposed of by the Legislature itself, and the governor, we will, however, review in as much detail as possible the important acts which have been passed by the present Legislature, especially those which are of interest to country people. As noted in another column of this issue, one important action of the Legislature during the past week was the provision for the appointment of a commission to investigate European rural credit societies and make a report which will be of value to succeeding legislative bodies in the consideration of this important subject which is demanding so much public attention at the present time.

The present Legislature may well be said to have been markedly progressive in its work, since many of the newer

ideas in civic economy have been written upon the statute books by this body. Undoubtedly it will develop that some mistakes have been made in this direction, but mistakes are the inevitable accompaniment of progress in every line of human endeavor, and can be corrected as they develop. As above noted, we will review in greater detail the work of the present Legislature in future issues.

Help the Alfalfa Campaign.

As announced in the last issue, a strenuous campaign for the more general introduction of alfalfa upon Kent county farms is now in progress, the county being fully covered by automobile parties, including experts on alfalfa culture who are lecturing at farmers' meetings and talking with the farmers as they pass through the county, with a view of getting every farmer in the county if possible to try this greatest of forage crops upon his farm. During the past year or two the Agricultural College has had one field man who devoted a portion of his time to the promotion of the alfalfa propaganda in Michigan. Through his efforts some 79 alfalfa clubs have been organized in almost as many counties in the state, thus creating centers in alfalfa production which will prove valuable object lessons to other farmers in these several communities.

All this is directly in line with the efforts of the Michigan Farmer to interest as many of its readers as possible in the growing of this most valuable forage crop. Any campaign of education is bound to be slow, the more so when the conditions under which a crop can be grown are not well understood by the educators, to say nothing of the farmers themselves, but the difficulties surrounding the growing of alfalfa in Michigan have been largely, if not entirely, solved.

It has been demonstrated that it will do well on almost any well drained soil and the essential factors in getting a successful stand have been worked out until now there is a reasonable certainty of success for all who will undertake to grow the plant. There should be from 10 to 40 acres of alfalfa on every Michigan farm, and those who have been successful in its production can do no better missionary work than to induce their neighbors to try it. This alfalfa campaign now in progress in the state is one of the greatest economic importance, and one in which every public spirited citizen should help to the extent of his ability.

Where there's a Will there's a Way.

This maxim is one, the truth of which each and every one of us should appreciate more fully than we do. Its truth is well illustrated by an authenticated incident which recently occurred in a neighboring state. A farm boy and his father were at work splitting wood in the morning of the day in which a judging contest was advertised as a part of the program at a meeting of the state live stock association. The boy remarked that he would like to go to this contest and see the animals and if possible participate in the contest. Fortunately his father rose to the occasion and told him to get ready and go and if he won the prize he would send him to the agricultural college. The boy entered into the contest with the will which will spell success in his later life, and won. He also demonstrated the truth of the maxim, "Where there's a will there's a way."

Kalamazoo County Boys' Corn Club.

The Kalamazoo County Boys' Corn Club, which was organized at a meeting at the state normal school at Kalamazoo in January, has a prosperous outlook in the opinion of the advisory board, composed of County School Commissioner Mapes and Messrs. Carey A. Rowland and J. H. McLaughlin. The officers of the club are themselves boys acting under the advice of the county school commissioner, who is aided by the advisory board. The boys who are members of this club will compete in corn growing for prizes to be offered at the end of the year for the best 10 ears of corn grown on an eighth of an acre of land. The advisory board has sent a circular letter to all teachers of district schools in the county, giving information with regard to the contest and urging the teachers to interest as many boys as possible in it. Also bulletins have been prepared on different phases of corn growing which will be sent out at different periods during the season, the first one which accompanied the letter to the rural teachers containing advice regarding the selection of site for the plot of

corn, the fertilization of the soil and the testing of the seed.

This work holds great educational possibilities, and apparently the plant adopted are such as to make the most of these possibilities in the district schools of Kalamazoo county. The result will be watched with interest by the farmers and educators of other sections of the state to whom this work will prove a valuable object lesson.

THE HUMAN PARASITE.

"Parasitism is an adaptation to a very special mode of life in which the common nutritive difficulties are reduced to a minimum," says a wise professor of biology in one of our universities. A few moments' study of this definition will reveal the fact that it is scientifically correct and philosophically true. A parasite is an organism that lives at the expense of another without rendering it any service in return. This holds true in all cases, whether we think of the miniature parasite that inhabits the digestive tract of the earthworm, or the human parasite that lives upon the human race generally.

There are several classes of the human parasite, but the one which we wish to consider here is that unworthy and often times contemptible class of humanity that travel through the country begging their food and lodging, and pleading some form of disability as an immunity from work. This class needs no introduction to the farmer. Its members are known the country over. Just why society permits these parasites to exist is not evident. However, exist they do and always will unless there is a united effort on the part of the better classes of humanity to eliminate them forever from our midst.

It is a universal fact in the lower forms of parasitic organisms that their ancestors at one time led a separate existence. By lower forms we mean those parasites that are internal. The internal parasite is way below the external parasite in organism. The early ancestors of these internal parasites were organisms that existed by the usual means of exertion to gain a livelihood. They possessed organs and appendages much the same as other individuals of their genus and withal, were fairly intelligent animals for the class which they represented. However, by some unfortunate circumstance they learned that there was an easier mode of life, which called for absolutely no exertion. All that was required to live was merely to eat. So they gave up the freedom of a separate existence; they discarded the active life, and adapted themselves to a fixed life. The direct result was degeneration. Their appendages and most of their organs became rudimentary after a few generations, and their intelligence became a negative quantity.

So it is with the species of parasite that we call "tramps," "hoboes," and "beggars." They have learned that it is easier to live by parasitism than it is to work for their daily bread. Their main object in life, like the true parasite, is merely to live. Hence they give up all the pleasures of life that is in a large sense joyful, because it benefits others than self entirely. The value of any man's occupation is measured, not by the amount it benefits himself, but rather by the degree in which it aids others. The returns of labor in any form are but the rewards for having benefited humanity. However, the parasite gives nothing for value received, and is always a detriment to society. Moreover, the habit of parasitism is a detriment to the parasite himself; for as the true parasite degenerates, so does the human one. Everyone who comes in contact with a human parasite realizes this degeneration to be a fact. He has no high and lofty ambitions, no ideals, no personal pride. His one desire is to live without the necessity of giving value for value.

Doubtless there are occasionally worthy people who go through the country asking for aid of some kind. But notice, a worthy person is never a parasite. It is not hard to distinguish a worthy person who asks for help. A worthy person is invariably willing to do what he can to pay for his meals or lodging. He will ask if there is some kind of work he can do to pay for his keep. A man stopped at the door of a farm house one day and said, "Madam, have you any wood I can cut, or any kind of work I can do to pay for my dinner?" He was worthy and not in the least in the parasitic class. He was given his dinner, and when he had finished it, he again asked if he could

pay for it in work. Such people are not tramps, and any farmer's wife is willing to help the worthy when she can.

Another man stopped at the door of another farm house one night and asked for lodging for the night. He claimed that he was a cripple and could not work. He said that half of his feet were cut off; but he gave no reason why he could not work just as well as to tramp through the country. His disability did not seem to hinder him in walking at all. Accompanying him was a little curly dog. This in itself should have been enough to stamp him as being unworthy; for no worthy person having need of aid will have use for a dog. But the farm house at which he stopped on this particular night was owned by a young farmer, and rather than get such a person's ill will, he permitted him to remain all night. This parasite was surly and ungrateful and demanded that his dog be allowed to sleep with him, although the farmer's own dog always spent the night in the barn. Farmers are unwise to let such undesirables influence them into donating either food or lodging.

After getting his breakfast the next morning, the parasite took his valise and hurried up the road, his dog following at his heels. He walked as briskly as any man could. He did not make any calls in the neighborhood. Later it was learned that in another community he collected three dollars and got two dinners in one afternoon. He was a perfectly healthy man and was unworthy of any aid whatever. He was capable to work as much as any man, but like the true parasite, he had learned that there was an easier life by living on the labors and exertions of someone else. He had lost all personal pride and was fast becoming—if not already there—a degenerate.

There is only one cure for parasitism: expel the parasite. There is but one sure way to do this and that is to make local conditions unfavorable to the parasite so that he can not remain. Several ways are open to farm folk to make local conditions unfavorable. A ready means is to give the parasite "cold shoulder" and "cold tongue." In other words, do not sympathize with him, but refuse absolutely to cater to his wants. Give him to understand that he is unworthy of any aid. Adopt the John Smith logic and tell him that those who won't work shall not eat. Parasitism would soon die a violent death if every farmer would adopt such an attitude. Again, there is another remedy. There are laws against vagrancy, and there are officials to enforce them. Every farmer would perform a service to society if he would inform the correct officials every time he came in touch with one of these parasites. Such a method consistently carried out would be fatal to this parasitism.

The world owes no able-bodied man or woman a living. Every able-bodied individual who has reached maturity and is sane owes the world a service. With the truly unfortunate it is a different matter. The world is largely responsible for every man's misfortune of an accidental nature. If a man has lost a limb it has been torn away undoubtedly by something that has benefited humanity. It is the duty of society to take care of those who cannot take care of themselves, or have no one to take care of them. Everyone has sympathy for the really needy; but no man should have a whit of sympathy for a parasite. If a person can walk day after day, he can work, and there is not yet a monopoly on farm labor, as most farmers, who are compelled to hire laborers, know.

Farmers, let the mandate go forth from each individual that this form of parasitism must cease. You will not only benefit yourselves and your posterity, but you will be doing the parasite himself a favor in that you will compel him to seek a legitimate occupation.

Ionia Co. JAS. A. BROWN.

LANSING TO HAVE A PUBLIC MARKET.

That a very large majority of the people of our cities believe in the direct marketing of farm products was shown by the vote taken in Lansing, April 7, on the question of establishing a public market within the limits of that municipality. The final vote stood 4,012 for and 1,866 against, giving a favorable majority of 2,146 votes for the proposition. Not a single one of the six wards voted down the measure. If the market is properly located, equipped and managed it should afford the residents a more satisfactory source of farm products and prove a highly profitable place for farmers to sell.

HAPPENINGS OF THE WEEK.

National.

The first serious break in the main dykes in the lower Mississippi valley occurred Monday afternoon when the Wood-lawn levee north of Mayersville, Miss., went out. It is estimated that with the territory already flooded the area covered by water from this new break will make a total of 1,132 square miles under water. Boats have been ordered to do rescue and relief work in the affected district. Communication assures the outside world that there is little danger to life or stock in the troubled territory.

The little town of Fenton, 16 miles southwest of St. Louis, Mo., was wiped out by fire Sunday. The loss is estimated at \$200,000. A hundred persons are homeless.

The ice fields at Buffalo are delaying the opening of lake commerce to that port. On Monday there were 29 vessels fastened in the ice outside the harbor there. Vesselmen look for no change until the wind shifts to a different quarter and drives the ice from the lake front.

The amount of beef exported from the United States during the year ending March 31, 1907, was 36 times as great as for the fiscal year ending March 31, 1913.

In spite of the fact that the state government of California has been appealed to by the state department at Washington to have regard in the matter of the alien land legislation for the friendly relations between this country and Japan, the Californian legislature seems determined to adopt laws handicapping Japanese ownership of lands in that state. The laws, as now proposed, will provide that no alien who is ineligible to citizenship shall be permitted to acquire and hold land in California for a period of more than one year after date of such acquisition, and, too, that no corporation, the majority of stock of which is held by aliens who are ineligible to citizenship, shall be permitted to acquire and hold land except for one year. The position taken by the Californians is that the proposed laws are no more stringent than those already existing in Arizona, Washington, Illinois, Minnesota and Missouri; and further, that the Asiatic immigrants will soon drive out all Americans from the locality in which they locate, since Americans will not long remain where there are Asiatic property owners. It is expected that the measures will be voted upon some time during the current week.

A new factor has been introduced into the controversy between this country and Great Britain regarding the exemption of American coastwise trading ships from paying tolls through the Panama canal. A demand has been made by a number of senators at Washington that the treaties upon which Great Britain claims a right to interfere in the matter of regulating the tolls, be abrogated. The resolution presented by Senator Chamberlain of Oregon, is receiving more general support than was anticipated.

The Michigan Legislature will provide for a commission to visit Germany and other European countries for the purpose of investigating the system of agricultural credits there. This commission will likely work in harmony with similar ones from other states in a general study of agricultural credit systems of Europe. Governor Ferris has already chosen A. B. Cook, of Shiawassee county and H. F. Baker, of Cheboygan county, as members of this committee.

President Emeritus James B. Angell, of the University of Michigan, has been selected to represent this state at a peace conference to be held at St. Louis, May 1-3.

Patrolman Willard Blynn, of Pontiac, was killed and another officer seriously injured in an automobile smashup last Monday morning.

Fire is reported to have caused a million dollars loss in a lumber plant at Georgetown, S. C.

Foreign.

King Albert of Belgium hopes to put an end to the industrial strike of that country, in which nearly half a million Belgians are participating, by asking the present premier and his cabinet to resign and committing the formation of a new cabinet to a premier who will submit the question of general franchise to a committee of inquiry. It is believed that this move will have the effect of satisfying those who have gone on strike for the purpose of securing the right to vote.

A battleship of super-dreadnaught type was launched from the French government dockyard at Lorient, France, April 20. Another similar ship is to be launched at Brest this week. The orders for these ships were placed in May, 1912, making their construction among the most quickly achieved in the history of battleship building.

While a better feeling prevails among the Japanese toward the United States because of the news that President Wilson and Secretary of State Bryan have taken active steps toward having the California alien land laws altered, a feeling of indignation was started by the publication of an official message to the effect that anti-Japanese legislation is being considered in several western provinces of Canada.

The condition of affairs in Mexico has assumed such a phase that it is reported from unofficial quarters that intervention by the United States will be the only means of bringing about settled conditions in that republic. The different army posts in the United States are making ready for moving troops and war munitions to the Mexican border.

CROP AND MARKET NOTES.

Sanilac Co., April 18.—Prospects are we are going to have seeding weather. The frost is all out and the ground is drying fast. Some are already working the land.

Most of the oats in this locality are put in on bean ground (last year's), which is disced instead of plowed. About half of the wheat looks good, the remainder is very spotted and seems to have suffered from the ice that covered it in February. Hay prices are a little better but the local markets are slow to raise. Auction sales still continue almost daily. Our rainfall has been heavy so far in April. Those who sustained heavy losses caused by the wind storm (March 21), have not been able to rebuild yet, the weather has been so unfavorable for carpenters to work, and not enough to go around. Farmers are hoping for a good season. Farm wages range from \$28 to \$35 per month and board. Butter-fat, 34c; eggs, fresh, 16c.

Genesee Co., April 12.—Cold wet weather has interfered with starting work and so far as reported not a furrow has yet been turned. The land is too wet for hauling loads so the annual cleaning up of manure piles has not begun. Repairing fences and other like work seems to be about all that has been attempted thus far. Grass and wheat are starting well. The latter not apparently injured by freezing, to any extent. The farm adviser for this county has begun his duties. An employment bureau where farmers and laborers may be brought in touch with each other, is being tried out. So far demands for help are far in excess of the supply. County road making will be resumed in a few weeks.

Lapeer Co., April 12.—Season backward; fields so water-soaked and soft that teams cannot get over the ground, making it unfavorable for farm operations. Sowing on the usual clover and timothy seed on fall grains has not, on many farms, been attended to. Some farmers had their oat ground prepared and ready to drill in the oats, but the heavy rains of the past week stopped operations. Farmers are shingling their barns and other buildings, repairing the same, and also fences damaged on the memorable "Good Friday" by the hurricane. The average condition of stock is not extra. Some farmers have been buying hay and fodder the past week, while many are hauling baled hay to the cars for shipment. Grain and potatoes seem to be well sold and but little of the same left on farmers' hands. Fall grains seem to be looking quite well for as little protection as they have had the past winter. Clover has winter-killed some. Help appears to be scarce this year, notwithstanding the good wages offered. Farmers fearing free wool are selling off their sheep.

Ohio.

Carroll Co., April 14.—We have some very wet weather down here. Farmers are behind with their spring work. Some plowing done, but most of the bottom land is too wet to plow. All live stock looks well. We had some high water down here. The railroads were considerably damaged but most of the damage is repaired now. Grass is beginning to grow nicely. Eggs, 17c; butter, 25c; oats 40c; corn, 65; hay, No. 1 timothy, \$15.

Pennsylvania.

Erie Co., April 12.—Weather is quite changeable. An unusual amount of rain causing floods which traversed the country in general, involving the destruction of much property. Farmers unable to do much work, only the daily routine of chores. Wheat looking extra good. Hay, very best, \$8 per ton; cows, \$50@100; horses from \$150@250; hogs, 9c. live; veal 8½c live; spring pigs, \$8 per cwt. Land increasing in value. Farm help very scarce and wages reasonably good.

New York.

Niagara Co., April 11.—Roads getting good and some scraping being done on them. Every orchardman getting ready for spraying. The dry lime and sulphur solution is in great favor here at present. It is guaranteed to kill scale in four days; 500 100-lb. cans, or 50,000 lbs., have been sold at one point at retail lately at \$5.70 a can, one can containing material for 500 gallons of solution. The bottom has dropped out of the hay market and there is no demand for cabbage. Beans, \$1.75; calves and hogs each, 9c a lb; corn and oats, \$29 per ton; oats, 45c a bu; wheat, \$1; flour, \$5.75 per bbl.

Indiana.

Laporte Co., April 21.—Cold and late spring; 24 degrees this morning, with keen cold wind. Very little plowing done yet. Oats disced in on fall plowing. We expect a fair acreage of corn but late planting, perhaps after the 20th, from present outlook. Hauling manure the principal work, with trimming orchards, repairs to fences, etc. Stock all right and fair condition, mostly cows and young stock, the feeders. Butter, 30@35c; eggs plentiful at 16c; hens, 15c, alive; reliable farm help scarce and demand good; corn 50c; potatoes, 40@50c.

OHIO CROP CONDITIONS GOOD.

Notwithstanding reports of heavy losses to Ohio farmers from the extensive floods, a recent report of the Ohio Department of Agriculture states that while the property damage to farmers was considerable, the crop outlook is good, as indicated by the following:

"Wheat in places suffered no loss but the average loss for Ohio is estimated at 7 per cent, 1913 crop, based on acreage sown in 1912. However, the wheat prospect for coming harvest is optimistic. Growing condition is better at this time than corresponding date of 1912. Acreage now in the ground exceeds acreage harvested in 1912 by 600,000 acres. In bushels the 1913 harvest ought to exceed the 1912 harvest by 15,000,000, if no handicap is placed between now and threshing time. Oats already sown have suffered severely in places, also by delay in seeding. The crop may be impaired to the extent of 3 per cent. Rye, 1913, depress 5 per cent. Comparative large acreage in ground. Corn crop ahead, suffers only from slight delay in plowing and washout of soil. Loss estimated between one and two per cent only."



Mrs. Homelot—"Gracious, Anty Drudge! I'm ashamed to have you see my house! But the new calf got the colic, and I've been in the barn all morning. It's better now, and it won't take me long to clear away these dishes. They've been soaking in cool water and Fels-Naptha Soap."

Anty Drudge—"Lots of women would be tuckered out after nursing a calf through the colic. But I see you believe in making the best of things. Besides, you save your time and strength by doing things the easy way."

Women don't need to be tired out with their weekly washing nor housework if they do it the Fels-Naptha way, in cool or lukewarm water, with no hard rubbing and scrubbing.

Fels-Naptha Soap makes dirt disappear. It cuts the grease on pots and pans, and makes them shine. It cuts work in half, too, and does it better than it ever was done before, with less trouble.

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Women and Her Needs. At Home and Elsewhere.

Better is a Little with Contentment

Household Editor:—I am a young girl 18 years old and have lived on a farm all my life. I have a good home, but not much spending money. I think I should get out and earn my own money but my folks don't want me to leave. I have just an ordinary district school education but I think there ought to be something I could do. I want to come to the city, but my father won't hear to it. What would you advise?—M. B.

I SHOULD certainly not advise any girl who has a good home on a farm to come to the city for the doubtful pleasure of having a little more spending money. It has been my sad experience that most of that spending money goes to pay for the necessities which you now get for nothing, and there is nothing left over to buy the clothes and pleasure trips your soul longs for.

Just stop and consider your capabilities. You say you have only an "ordinary district school education." That means you might go into a department store, perhaps, there is always a long waiting list when you get there, and as you are absolutely without experience you would probably have to begin on \$4.00 a week. You couldn't get board anywhere for that and if you could there wouldn't be a cent left even for postage. You would, instead, have to rent a room for at least \$1.50 or \$2.00 a week and board and clothe yourself out of the remainder. How near mother's cooking would your bill-of-fare approach?

Or you might get into an office where all you could do would be to address envelopes, file letters, send out bills, etc., at about the same pay. Possibly you would get \$5.00 in an office but the struggle to exist would be the same. Factory work might pay you more after you learned to operate a power machine, they pay by piece work, from 40 cents to 75 cents per dozen garments, so if you are swift you might make \$8.00 or \$9.00 a week. But, you would have to come down to work at 7:00 o'clock, bring a cold lunch and eat it in the half hour allowed for nooning, then pitch in again and work until 5:00 or 5:30 p. m. in order to make the higher wage. Your companions would be for the most part foreign girls whose interests would not be yours. You would have no one around you who would care for the things you did, and in all likelihood would be cooped up in a room where two or more were suffering from tuberculosis.

Again, you might do kitchen work. This would be the sanest, healthiest and best paid work you could do. Everything you made would be clear gain, for there would be no board or room rent to pay. But the life of a kitchen girl in a city is not altogether a bed of roses. There are many homes where you would be treated well and have enough to eat. There are others where you would have a cold, dingy room in the attic with a cracked washbowl and pitcher, be denied the use of the family bath tub, and would not have enough to eat. You would be expected literally to "eat of the crumbs that fell from the master's table," and those crumbs would be few and scattering.

In whatever home you worked, you would not be treated as an equal. You would be expected to enter and leave by the side or back door, would not eat with the family and would not be introduced to their friends. What acquaintances you made would be made at church and the Y. W. C. A. And it is a common complaint among girls who do housework that as soon as a nice young man finds out you are a housemaid he drops your acquaintance.

If you want to earn money there are dozens of ways to do it in your own neighborhood. I've no doubt there are a half dozen farm homes around you whose mistresses would gladly give you \$3.00 or \$4.00 a week for your help. You might get \$5.00 or \$6.00 in the city but would it not be better to take less money and be in a neighborhood where you have friends and can have a good time? Besides, being in reach of your mother is worth much more than the extra money you might earn in a city. You will be working for someone you know, someone who regards you as an equal, where, in the city, many women you might work for

would scarcely consider you as more than a machine.

If you don't want to work out why don't you raise chickens, or cultivate a berry patch, or try the home canning of vegetables, as described in a recent issue of The Farmer? Your father will surely donate a garden patch and your mother the use of her clothes boiler, and you can use that little spending money you do have to buy the cans. Home canned things always find a market. It was only last week as I was giving a grocery order that I saw a stack of cans on the counter labeled, "Canned by Mrs. M. Blank, Sunny Brook Farm, Virginia." There is no reason why someone should not see your name and address on canned vegetables and fruit, and you have your spending money and keep your home too.

I should by no means advise a girl to leave her home when father and mother both want her to stay with them. There are enough poor, worn creatures now who are forced out, not only to support themselves but to provide for others. If a girl can live at home, by all means let her offer up thanks for her blessings and stay on, even if she only has ten cents a week for spending money. That is more than many working girls feel they can actually spend on themselves for anything besides bare necessities.

DEBORAH.

DIET.—No. 11.

Over-feeding of Starches.

There is a popular impression among most of us that the fat, well-fed looking individual is the well one. Yet all of us have remarked some time or other how funny it is that the thin, pindling looking individuals seem to be so wiry and so much better able to stand hard work than the heavier ones. In looking over the list of your acquaintances isn't it true that the ones who are thin and apparently not overly strong, keep right on the job day in and day out, as a rule, where the fleshier one is constantly complaining, and is usually the first one to be taken down with the epidemics which visit your neighborhood?

It argues, doesn't it, that fat isn't a sign of health? We can see that in the animal world. The sleek, trim, wiry horse can usually out-run and out-work the fat, over-fed animal. The first horse has been fed with an eye to getting the most work out of him, while the second has probably not been fed with any purpose in mind.

And the same rule holds in the human family. The fat individual is invariably not a walking advertisement of good health but of incorrect feeding. He is the product of a liberal diet of baked goods, sweets and starchy foods, rather than of a sane, well-balanced diet where proteins play an important part.

Milk, lean meat and eggs, with beans and peas, go to build up the wornout cells and keep the body in repair. The starches, sugars and fats are the fuel foods, that is, they keep the heat of the body up and furnish the energy needed to run the human machine. A person doing muscular work, of course, tears down a certain number of cells daily and it stands to reason that he must have the sort of food that will rebuild those wornout cells. If, instead of giving him the proteins, milk and its product, cheese, eggs, and lean meat, we feed him starchy foods, it must follow that the work of repair is improperly done and his system is undermined. This is what makes him physically unfitted to do heavy work and leaves him liable to contract sicknesses, not the least of which is tuberculosis.

It sometimes happens, though, that the person who lives almost exclusively on starchy foods, is thin and anaemic, instead of plump, although starchy foods go to making fat. This is usually due to indigestion, he eats so much more starch than the system can assimilate that the food acts as a poison, and deranges the whole system.

It is not only a mistake, but a crime, to fail to provide a mixed diet for ourselves and for our children. Growing children should be given the sort of foods which build up muscles, bone and nerves, not to mention the vital organs.

DR. TALKS ON FOOD

Pres. of Board of Health.

"What shall I eat?" is the daily inquiry the physician is met with. I do not hesitate to say that in my judgment a large percentage of disease is caused by poorly selected and improperly prepared food. My personal experience with the fully-cooked food, known as Grape-Nuts, enables me to speak freely of its merits.

"From overwork, I suffered several years with malnutrition, palpitation of the heart, and loss of sleep. Last summer I was led to experiment personally with the new food, which I used in conjunction with good rich cow's milk. In a short time after I commenced its use, the disagreeable symptoms disappeared, my heart's action became steady and normal, the functions of the stomach were properly carried out and I again slept as soundly and as well as in my youth.

"I look upon Grape-Nuts as a perfect food, and no one can gainsay but that it has a most prominent place in a rational, scientific system of feeding. Any one who uses this food will soon be convinced of the soundness of the principle upon which it is manufactured and may thereby know the facts as to its true worth." Name given by Postum Co., Battle Creek, Mich.

"There's a reason," and it is explained in the little book, "The Road to Wellville," in pkgs.

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

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And these foods are milk, eggs and lean meat. Many mothers say their children will not drink milk nor eat eggs, and offer this as sufficient excuse for not providing the children with the food nature demands. If children will not eat these foods the fault is the parent's. The sane parent never asks her child what she likes or doesn't like. She sets before them the food they should have, and lets them eat it or go hungry. Hunger is a good sauce for any food and the normal child will not turn up his nose at a good glass of milk or a nice fresh egg if he knows he is not going to get a piece of cake or a doughnut if he makes a big enough fuss. If from babyhood the children are fed properly, and not given any freedom of choice, there will be no trouble about their eating when they get older. When your child is sick and in danger you see that he takes his medicine, no matter how bitter. How much better it would be to see that he takes good health-making food every day, and thus ward off the sicknesses that the wrongly fed child is heir to.

HOME QUERIES.

Household Editor:—My baby vomits a good deal and I can not decide what is the matter. Some mothers tell me it is all right, that babies always do vomit, but it worries me. What would you do?—Young Mother.

If the baby is fed naturally and is plump and well and vomits immediately after nursing, it is probably only because he has eaten too much and nature takes that way of protecting the stomach. In this case it is not a cause for worry, but only a suggestion not to let the baby nurse so long. If it is a bottle baby, there may be something wrong with the food, or again it may be only overfeeding. If it is not losing weight, try reducing the quantity of the feeding. If baby is not well and thriving it is possible that the milk you are giving is not prepared properly. Reduce the amount of sugar, or if you are adding a patent baby food reduce the amount of food added to the milk. Too much starch and sugar causes vomiting and the food vomited up will be very sour. An excess of cream also causes vomiting. If baby vomits 10 or 15 minutes after eating, it is only from overfeeding. If it vomits an hour or so after a meal it is probably due to too much cream, sugar, or starch.

Household Editor:—Do you think vegetables cooked in a fireless cooker are as good as those cooked on top of the stove?—Mary B.

No, decidedly not. Vegetables cooked in a closely covered receptacle where there is no chance for the vapors to escape are never as good as those cooked where the cover can be left off a bit for the steam and odor to pass off. I tried cooking potatoes in the fireless cooker and secured a mass of black-looking, soggy things that even the household pets refused to eat. Since then I have used the cooker exclusively for cereals or meats that needed a long slow cooking.

"GOOD-LUCK" PATCHWORK.

BY MATTIE M'CASLIN.

It is pleasing to note that the Granges and both state and county fairs encourage the dear old pastime of making patch-work, and many women, especially elderly ladies, still love to indulge in this useful "fancy work." Why not bring it up-to-date, and instead of mere geometrical blocks that mean nothing, embody some symbolic design into the quilt or cushion? Why not try the cheerful task of making "Good Luck" patchwork in the form of the ancient but ever popular swastika.

I have worked it out and the effect in silk, wool and even calico in light and dark colors alternating, is very pleasing, while the idea embodied brings a helpful suggestion. Though of ancient, Oriental origin, we all love the swastika, symbolic of the world's life and activity, and worn as a good luck amulet. Get out your bag of scraps, follow these directions carefully and you cannot fail.

To make a dark swastika, first cut a dark strip the length of which is exactly five times its width. Next cut six short strips each double its width. Then make four light strips the same size as the short, dark ones. Sew the four light pieces to the side of four of the dark ones.

Then sew together a rectangular block so that when placed before you with the long way up and down the colors will be in the following order: At the top, running across is a black stripe, next below it a white one, then another black one. At the bottom the stripes run up and

down instead of sidewise, with the ends sewed to the under side of the third black stripe running crosswise. Put the black stripe at the left of the bottom and the light one at the right. Now make another rectangular block identical with the one just described and then turn it with the bottom end up and place to the right of the first rectangular block. Now the first dark strip cut five times as long as broad, is placed between these two rectangular blocks and sewn to them. If these directions are carefully followed the resulting block will be your swastika.

To make a light-colored patch swastika on a dark background, reverse the colors. That is, one long, light strip, six short light ones and four short dark ones.

One large patch with a border around will do for a cushion. To make a quilt they may be set together with plain pieces alternating, or sash-work, but a very pretty effect is attained by alternating light and dark swastikas to complete the quilt.

CONTRIBUTED RECIPES.

(We do not pay for recipes).

A three-layer sandwich is made as follows: Slice white bread thin and spread with butter. Use brown bread for the inner layer and ginger mixed with cream (prepared ginger in cans should be used). Spread this and chopped English walnuts on both sides of the brown bread and add a second slice of white bread.

Pineapple Jelly.—Pare a medium-sized pineapple, grate and add to it one quart of water. Boil for 15 minutes. Add one and a half cups of sugar and two-thirds of a cup of gelatine dissolved in a little cold water. Strain through a floured bag, put in a pineapple mold and set in a cold place.

Parsnips and Irish Potatoes.—Boil parsnips in slightly salted water, and when nearly done take them off and slice them in circles; place a layer in a baking dish and then upon this a layer of thinly sliced, partially boiled Irish potatoes; continue the process until the pan is full; pepper slightly and add several good-sized lumps of butter; partly fill the dish with cream or milk, and put in and bake till both vegetables are well done.

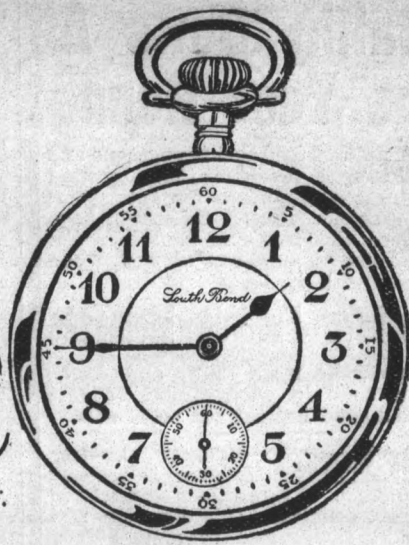
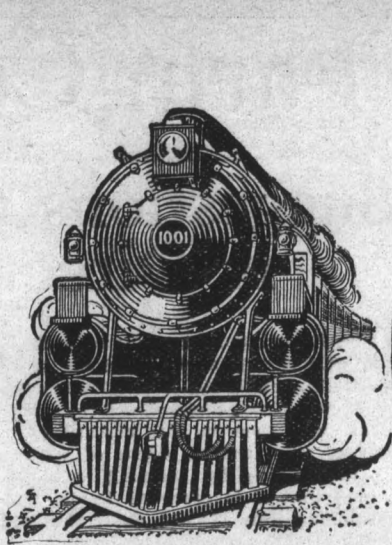
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Our large Fashion Book—containing 92 pages illustrating over 700 of the season's latest styles, and devoting several pages to embroidery designs, will be sent to any address on receipt of 10 cents.



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No. 7677—Fancy waist, 34 to 40 bust. With fitted lining, long or elbow sleeves, round or square neck.
No. 7635—Fancy blouse, 34 to 40 bust. With or without chemisette, tie ends and cuffs, with Robespierre collar that can be made high or low.
No. 7477—Four-piece envelope skirt, 22 to 30 waist. With or without plaited portions, with high or natural waist line.
No. 7407—Girl's dress, 10 to 14 years. With six-gored skirt, round or high neck, with elbow or three-quarter sleeves.
No. 7703—Semi-princesse gown, 34 to 44 bust. With three-piece skirt, long or three-quarter sleeves, with or without chemisette.

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"Railroad time" is accurate time. Railroads spend thousands of dollars a year to keep their employees' watches correct. But few makes of watches can meet the requirements. All South Bend watches keep railroad time.

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that make a horse wheeze, Roar, have Thick Wind or Choke-down, can be removed with

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also any Bunch or Swelling. No blister, no hair gone, and horse kept at work. \$2 per bottle delivered. Book 3 for free. ABSORBINE, J.K., liniment for mankind. Reduces Gout, Tumors, Wens, Painful, Knots, Varicose Veins, Ulcers. \$1.00 and \$2.00 a bottle at dealers or delivered. Book with testimonials free. W.F. YOUNG, P.D.F. 268 Temple St., Springfield, Mass.

SPECIAL

We are making a special proposition to six reliable farmers in each county of the Central States. Royal Medicated Salt is a guaranteed Worm Destroyer, a Genuine Conditioner and a Great Tonic. No sheep raiser or dairyman can afford to be without it. Write quick for the greatest proposition ever made.

Royal Stock Food Co., Newark, Ohio

Farm Commerce.

Suggestions to the Beginner in Direct Marketing.

The following hints may help the person who is contemplating doing a direct marketing business. Since these suggestions come from those who have had practical experience in this method of marketing, they should prove of assistance to the novice by pointing out certain things that it is essential to do, and by cautioning him against other things that if done might result in failure.

Correspondence.—Answer all letters promptly. Write plainly with ink on good stationery and make your statements clear.

Describing Products.—Give as clear an idea of what you have to sell as possible. Regarding apples, the buyer would like to know the variety, whether they are hand-picked, comparatively free from scab, rots and worm holes, the size and color. Concerning eggs, he wants to be satisfied that they are absolutely fresh, clean and of average size. The important questions about butter are that it has no objectionable flavors, or smells, that it is fresh, firm, of good color and that it will be packed well for shipping. Space does not permit a rehearsal of the important matters to mention regarding all kinds of products sold direct, but if the producer will imagine himself in the position of the buyer he is quite certain to recall the particular things about a product he would then like to know. If he follows this rule he is quite certain to make clear to the buyer the kind of goods he has.

Prices Asked.—There is a temptation on the part of the producer when beginning a direct trade, to ask too high a price for his goods before he has any reputation with the buyer. The men who get the big prices are those who have been dealing this way for some time and the buyer has learned to rely absolutely on the goods. So ask a moderate price for your first few consignments of goods, at least. This will encourage the consumer to buy of you and will give you a chance to show him that you intend supplying a first-class article and mean to deal with him honestly. Then, too, the consumer will have to pay the transportation charges. These you should ascertain from your express agent, or postmaster and calculate the price you will ask accordingly. An example will illustrate what we mean:

When eggs were retailing at 40 cents in Detroit a party 100 miles up the state furnished them to us at 32c per dozen. It cost us four cents per dozen to have the eggs shipped and the crate returned. (Had they been sent in 30-dozen quantities instead of 12-dozen, the transportation charges would have been reduced to one and one-half cents per dozen). This enabled us to get our product at four cents less per dozen than Detroit prices, or 36 cents, which was an inducement for us to buy. The person who sold the eggs received four cents more per dozen than on his regular market. Thus, we found the arrangement mutually agreeable, and both are well satisfied to continue it.

Learn Transportation Rates.—You can call up your local express agent and ask the charge on expressing a crate of eggs or a certain amount of butter, or whatever product you are selling, to the city where your consumer lives. Determine also in what parcel post zone your prospective customer is located. You can do this by making inquiry of your postmaster or rural mail carrier. Then, in writing to a prospective customer tell him what the charges will be if shipment is made by express and also by parcels post. These facts will thus enable the consumer to quickly determine whether buying from you would offer him any particular advantages. It would also show him that you mean business by going to the trouble of getting this information.

Quality of Goods Offered.—You should guarantee your goods to be a certain quality and then you should see to it that they absolutely measure up to your guarantee. Don't attempt to mix poor goods, hoping to get rid of them at good prices. In the first place, such an

act is dishonest, and in the second place you are certain to make a failure when dealing direct with the consumer, for he will have no one to lay the blame upon except yourself; you cannot escape. If there is any question in your mind about the goods, don't send them at all to your direct customer, but get rid of them in some other way. You cannot be too particular about having the goods absolutely as you guarantee them to be.

Making Collections.—Do not send a second shipment of goods to a party until he has paid for the first, unless you are personally acquainted with him or otherwise have confidence that he will pay. It is a good policy to require remittance for each shipment before another order is filled. Should you have fear about getting pay for the goods, send them C. O. D., and the express company will collect from the consumer the price for the goods with the transportation charges, and remit the price to you, less a small per cent for the service.

Weights and Measures.—Give good weight and measure. It is not necessary that you cheat yourself by giving over-weight and over-measure, but it is important that no stinting be done here.

Neatness.—City people are in the habit of having things delivered to them in neat packages and for this reason it is important that goods delivered to them direct from the producer be put up in clean containers. Exercise care in this regard. It will help get more business for you.

Packing for Shipment by Express.—Because of the dispatch with which express must be handled packages are often given rough treatment. It is important, therefore, that all containers, boxes, barrels, etc., used, be strong and capable of standing this rough handling. Poultry and meats may be sent in boxes; butter can be shipped in boxes in cold weather and in crocks or tubs when days are warm. Apples will go in boxes or barrels. Potatoes and roots may be sent in bags, boxes, or barrels; celery should be crated.

To Ship Eggs by Express.—Pack carefully in strong egg crate, using ordinary pasteboard fillers. Crates of different sizes to hold from one to 30 dozen may be found on the market. Experience teaches that the eggs are made more secure and carry better if plenty of papers are placed between the tiers of eggs, and between the fillers and the walls of the crate. If one makes his own crate he should allow for this extra packing. It has also been observed that less breakage occurs where the eggs are shipped in 30-dozen crates than in smaller ones, because expressmen cannot throw them around so easily. Fasten cover securely and address the crate plainly, also give return address.

Packing Goods for Parcels Post.—The parcels post regulations make it necessary to pack goods in a particular manner before they can be mailed. We give below directions for packing eggs for shipment by parcels post. For shipping other products we would suggest that you send to the Post Office Department, Washington, D. C., asking for Parcels Post Regulations, which will be furnished you free. On page 15 of these regulations will be found directions for packing other products. Your postmaster may also be able to furnish you with these regulations by making request of him, or tell you how to pack any particular product you may wish to send by parcels post. Study these regulations carefully that you may not be disappointed or embarrassed in shipping your goods.

To Ship Eggs by Parcels Post.—For local delivery eggs must be packed in basket or other container so as to prevent damage to other mail in case of breakage. Eggs will be accepted for mailing regardless of distance when each egg is wrapped separately and surrounded with excelsior, cotton, or other suitable material, and packed in container made of double corrugated pasteboard, metal, wood or other suitable material, in such manner as to place each egg on

its end and to prevent them from striking together or against the container. The container must be covered with an outer cover of double corrugated pasteboard, metal, wood or other suitable material and wrapped so that nothing can escape from the package. The parcel or basket must be labeled "Eggs." Address plainly.

To start with this may appear as quite an undertaking but once you become familiar with the practice it will be little more trouble than the present system of marketing, and much more profitable.

WHERE COST OF DISTRIBUTION CAN BE REDUCED.

N. P. Hull, of Eaton county, Michigan, struck a key-note in the recent First National Conference on Marketing and Farm Credits, held in Chicago. One of the chief objects of the conference was to devise a plan by which producers may get their products to the consumer without feeding so many middlemen.

Mr. Hull, who probably made the shortest and at the same time the most pointed speech of the conference, said that recently he had seen in the street of a town of 10,000 population no less than 12 milkmen delivering milk to patrons. Following up the scent he discovered that the same men trailed practically all of the streets of the town, some of them traveling several blocks before delivering more than a single bottle of milk. Here were 12 men each getting a profit where one good distributing concern properly routing the town could handle the whole business with but a single profit.

Several of the speakers at the conference, among whom were some of the best posted and most able talkers at farm meetings, pointed to the fact that in order to handle the distribution of farm products without unnecessary waste it would be as desirable to organize the consumers as the producers and any plan that does not take in the rights of the consumer as well as the producer was doomed to utter failure. The milk consumers of a Michigan town are looking forward to an organization to meet this very question. In South Haven, Mich., each of the local merchants were running a wagon to deliver goods. The merchants organized a plan by which one delivering concern handled the delivery business of all the merchants. This man provided himself with a kind of double-decked vehicle on which he could properly route the whole town. When he'd get off his seat to make a delivery the parcel to be delivered was the nearest at hand. This proved economical.

Business men as well as farmers can well afford to give thought to the probable saving in handling the volume of business of a city like Chicago where 12,000 farmers ship in all the way from 30,000 to 40,000 cans of milk a day without considering the big bottle shipments. Illinois. J. L. GRAFF.

CONSUMERS' BUYING ASSOCIATIONS.

We hear much about farmers combining to make shipments of wheat, corn, live stock and other products direct to consumers and to a single middleman, but we hear little of consumers organizing to buy direct from the farmer. This plan has already been tested with success in England where many societies have been organized to buy direct and in quantities.

When certain farm products are selling at almost prohibitive prices in certain states or localities it would not be difficult for consumers to join themselves together and buy direct from the producer in regions where the crop was large. In car lots the freight charges would be sufficiently reduced to make this manner of buying entirely practicable.

In a certain year potatoes were selling in Michigan for 30 cents the bushel and in Minnesota for \$1.25 the bushel. What was to prevent consumers in Minnesota cities from combining and buying Michigan potatoes in car lots for division among their members strictly for home use? A permanent association could be maintained with a secretary on a minimum salary for time actually spent. When certain products are required, members will report the quantity or amount needed to this secretary. He then makes investigations in regions of heavy production, keeping in mind price, distance and shipping rates. Orders are made for the amount required, and on arrival the members whose separate orders comprised the general order are notified to call and get their goods within a stated number of days. This plan would go far to solve the

question of high food rates in the cities. The farmer would still receive as much or more than by selling to dealers as at present.

Hillsdale Co. C. L. CHAMBERLIN.

COLD STORAGE.

The economics of cold storage is covered by a recently issued bulletin prepared by Geo. K. Holmes, chief of the Division of Production and Distribution, Bureau of Statistics, Department of Agriculture. The information was collected from a large number of cold storage warehouses, both private and public, situated in all parts of the United States. The commodities represented are fresh beef, mutton, and pork, dressed poultry, butter and eggs. The subject of cold storage commodities in relation to prices is covered by another bulletin, recently issued.

Months of Heavy and Light Receipts.

During the three heavier cold storage months, (September, October and November), of the storage year 1910-11, 47 per cent of the fresh beef placed in cold storage during the whole year was received into the warehouses, 59.8 per cent of the fresh mutton, (August, September and October), 59.2 per cent of the dressed poultry, (November, December and January), 70 per cent of the butter, (June, July, August, and sometimes May), and 79.4 per cent of the eggs, (April, May and June).

In the lighter cold storage months of the same year, February, March and April, 10.3 per cent of the fresh beef placed in cold storage during the whole year was received into warehouses; in May, March and April, 8.1 per cent of the mutton; in May, June and July, 3.4 per cent of the dressed poultry; in February, March and April, 2.7 per cent of the butter; and in December, January and February, 1.4 per cent of the eggs. The receipts of fresh pork into cold storage are quite evenly distributed throughout the year.

Deliveries Out of Storage.

It was established in this investigation that 71.2 per cent of the fresh beef was received into cold storage in the cold storage year 1909-10, was delivered within three months after receipt, 28.8 per cent of the fresh mutton, 95.2 per cent of the fresh pork, 75.7 per cent of the dressed poultry, 40.2 per cent of the butter, and 14.3 per cent of the eggs.

The percentage of the year's receipts delivered in seven months is 99 for fresh beef, 99.3 per cent for fresh mutton, 99.9 per cent for fresh pork, 96.1 per cent for dressed poultry, 88.4 per cent for butter, and 75.8 per cent for eggs.

An important result of this investigation is that the receipts of fresh beef, mutton, and pork, dressed poultry, butter, and eggs, into cold storage are entirely or very nearly exhausted by the deliveries within 10 months.

Carry-over to Next Year.

It is a matter of some consequence to farmers and to consumers if the cold storage of farm products results in carrying over to the next year of production a quantity large enough to depress the price of that year. From the natural storage year ending August, 1910, 9.6 per cent of the receipts are carried over to the next year in the case of fresh beef; the percentage of fresh mutton for the natural storage year ending July, 1910, was 15.1 per cent; for fresh pork for the natural storage year ending April, 1910, 5.4 per cent; for dressed poultry for the natural storage year ending July, 1910, 7.7 per cent; for butter for the natural storage year ending April, 1910, 4.9 per cent; and for eggs for the natural storage year ending April, 1910, 0.2 per cent.

Average Length of Storage.

The fresh beef received into cold storage during the year beginning May, 1909, was kept there on the average for 2.28 months; the fresh mutton 4.45 months; the fresh pork 0.88 of one month, and the butter 4.43 months. The dressed poultry received during the year beginning March, 1909, was kept on the average 2.42 months; the eggs 5.91 months.

Costs of Storage.

The report states that the owners of cold storage commodities "must use good judgment and take their goods out of storage before the costs of storage, added to the original cost of the goods and some profit, will raise the total amount of cost of goods above the market price. It is a problem of the future."

For the average length of time in cold storage, as ascertained in this investigation, the actual costs of storage are: For fresh beef, 0.997 of one cent per pound; fresh mutton 1.564 cents per pound; fresh pork 0.350 of one cent per pound; for

dressed poultry 1.079 cents per pound; for butter 2.532 cents per pound; for eggs 3.505 cents a dozen.

Fraction of Production Stored.

This investigation endeavors to arrive at some tentative conclusions with regard to the percentage of the national production that enters into cold storage during the year. The results of estimates and computations make it appear that 3.1 per cent of the year's production of fresh beef, commercial slaughter, goes into cold storage; 4.1 per cent of the commercial slaughter of mutton; and 11.5 per cent of the commercial slaughter of pork. Of the farm and factory production of butter during the year, 9.6 per cent goes into cold storage, and of the farm and non-farm production of eggs, 15 per cent.

Value of Commodities Stored.

A computation of the wholesale value of five of the commodities embraced in this investigation received into cold storage during the year is ventured with the result that the wholesale value of the fresh beef received into cold storage is estimated to be \$15,000,000; of the fresh mutton, \$1,600,000; of the fresh pork, \$18,000,000; of the butter, \$40,000,000; and of the eggs \$64,000,000. The total wholesale value of these commodities received into cold storage during the year is \$138,000,000 at prices of the year ending October, 1911.

The report contains a study of cold-storage butter as a fraction of the supply for New York City, and a similar study for eggs for Boston, Chicago and New York.

It is declared in this report that the results have been established by inductive processes, and, in this respect, that they are more or less distinguished from results of investigations by state commissions which have had a narrow basis of fact and have depended considerably upon the academic processes of assumed incomplete premises and upon deductions. The investigation negatives some popular misconceptions with regard to the cold storage business and substantially sustains some of the assertions made by cold storage warehousemen.

PARCEL POST MAKING GOOD.

Although the United States parcel post system has been operating less than four months, it apparently has given the public a cheaper and more convenient means of forwarding small parcels. Statistics compiled by the various express companies for the Interstate Commerce Commission show that for the months of January and February the companies lost from 22 to 25 per cent of their business in carrying parcels up to 11 pounds, and this loss the express people ascribe to parcel post. The above does not mean that the introduction of the parcel post system has saved the public from 22 to 25 per cent of the cost of carrying parcels coming within the prescribed limit, but that the system was sufficiently attractive to forwarders to divert from the express business this quantity of goods. The fact that the parcel post service is still growing in popularity, among distributors would further support the contention that it affords a more economical service for certain lines than do the express companies.

Just how far the farmer has been benefited by the system is a question. It is, however, safe to assume that the greatest benefit to him comes not so much from a saving on what he sends to the towns and cities as on the things received by him from the centers of population. In other words, a majority of the products of the farm is so bulky that the limitations prescribed in the act authorizing the parcel post service are too narrow to encourage so sending them. For this reason it would seem proper, now that the plan has proven a success within its present range, for farmers to urge the adoption of rules or measures looking toward the carrying of larger packages. Such a course would aid everybody by cheapening the distribution of farm products. Within its present sphere of activity it seems that the parcel post system has proven its right to a place in the list of public undertakings for the benefit of the people, nevertheless we should now go forward to improve it wherever it can be made to render a still better service and save to the people a portion of that which is now expended for parcel distribution.

Not until the farmer keeps an accurate account with every crop and knows exactly what he profits by producing the different kinds, will there be any great advance to a more economical agriculture.

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CATTLE.

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

GUERNSEY BULL CALVES, YORKSHIRE PIGS. Good Stock. HICKS GUERNSEY FARM, Saginaw, W. S. Mich.

GUERNSEY BULL CALF—Six dams have yearly records of 845, 722, 604, 518, 441, 418 lbs. of butter respectively. Bargain prices. G. A. WIGENT, Watervliet, Mich.

10 Reg. Guernsey Yorkshire hogs, the best yet come or write. JOHN EBELS, R. 10, Holland, Mich.

GUERNSEYS—Bull calves, reg., tuberculin tested. Splendid breeding. Moderate prices. Windemere Farm, Watervliet, Mich. J. K. Blatchford, Auditorium Tower, Chicago, Ill.

HEREFORD BULLS FOR SALE Also Poland China Hogs. ALLEN BROS., Paw Paw, Michigan.

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

CHOICE Bull Calves from A. R. O. dams. Sired by our herd sire whose dam and sire's dam each made over 30 lbs. in 7 days. E. R. CORNELL, Howell, Mich.

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

FOR SALE—HOLSTEIN BULL CALF Born June 5, 1912, sire a son of the King of the Pontiacs from a daughter of Hengerveld De Kol. Dam of calf, an A. R. O. daughter of Sadie Vale, Concordia's Paul De Kol, herd dam a 20 lb. imported cow. ED. S. LEWIS, Marshall, Mich.

HOLSTEIN BULLS—well bred, at reasonable prices. Barred Rock Chickens from 15 years breeding. Good layers eggs 15 for \$1. W. B. JONES, Oak Grove, Mich.

Purebred Registered HOLSTEIN CATTLE The Greatest Dairy Breed. Send for FREE Illustrated Booklets. Holstein-Friesian, Assn., Box 164, Brattleboro, Vt.

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3 to 8 months old,

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Sired by Johanna Concordia Champion,

whose sire's dam and dam's dam average 34.06 lbs. butter in 7 days, average fat 4.67%. Also cows and heifers bred to him. I can offer you bulls at bargain prices. Try me and see, and do it quick.

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

Send for circular.

FAIR LAWN FARM

Offers the following young

Holstein Friesian Bull

Prince Sarcastic—

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

REED & KNOWLES, Howell, Mich.

REGISTERED HOLSTEIN HEIFER—month old from 25 pound A. R. O. dam and sire of fashionable breeding, dark markings, nice individual, \$100 delivered, write for pedigree. Hobart W. Fay, Mason, Mich.

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

For Sale—Registered Jersey Cattle, tuberculin tested: bulls and bull calves; heifer and heifer calves; cows with Register of Merit and Cow Testing Association records. IRVIN FOX, Allegan, Mich.

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

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

Scotch & Scotch Top Bull calves 4 to 7 months old, also young cows and heifers bred to Bright Sultan. W. B. McQUILLAN, Chilson, Mich., 1/2 mile E. of Davis Crossing on A. A. R. R.

Dairy Bred Shorthorns—No stock at present. J. B. HUMMEL, Mason, Michigan.

Dairy Shorthorns—Large Cattle—Heavy Milkers. Milk Records of all cows kept. No stock for sale at present. W. W. KNAPP, R. No. 4, Watervliet, Mich.

Scotch Shorthorn Bulls and Heifers For Sale. W. W. KNAPP, Howell, Michigan.

SHEEP.

7 REGISTERED HAMPSHIRE \$50 1 fine Ram, 3 Ewes & 3 Lambs, all for C. D. WOODBURY, Lansing, Mich.

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

"OXFORDOWN SHEEP"—Descriptive and illus. treated article sent free. PARSONS, "The Sheep Man of the East," R. No. 1, GRAND LEDGE, MICH.

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

SHROPSHIRE & DUROCS KOPE-KON FARM, Kinderhook, Michigan

HOGS.

Durocs & Victorias—A Desirable Bunch of Sows of Either Breed due April and May. M. T. Story, R. B. 48 Lowell, Mich. City Phone 55.

Quick Maturing Berkshires—Best breeding; best type. Satisfaction guaranteed or money refunded. O. S. BARTLETT, Pontiac, Mich.

For Sale—Essex pigs, 6 to 8 months old, from Michigan's oldest herd. Save money by buying while young. Send for catalog and low prices. E. P. OLIVER, 804 Oak St., Flint, Mich.

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

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

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

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

O. I. C. Extra choice bred gilts, service boars and spring pigs, not akin from State Fair winners. Avondale Stock Farm, Wayne, Mich.

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

O. I. C's—All sold, will book orders for March pigs. ALBERT NEWMAN, Marlette, Michigan

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

O. I. C.—Boars all sold. A few gilts of GEO. P. ANDREWS, Dansville, Ingham Co., Mich.

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

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

MALES ALL SOLD BUT ONE—Fancy fall gilts for sale. JOHN NICOLL, Station A, Bay City, Mich. Route 4, Box 81.

DUROCS BRED SOWS all sold. Service Boars \$40 to \$50. January pigs \$12 to \$15, either sex. Satisfaction guaranteed. F. B. Cook, Route 2, Stanwood, Mich.

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

DUROC JERSEY GILTS—Bred for July and August farrow. Write for prices. I pay the express. J. H. BANGHART, Lansing, Mich.

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

Butler's Big Bone Poland Chinas

We have a few nice fall boars, also some big sows bred for fall farrow. Our hogs are all cholera proof. J. C. BUTLER, Portland, Michigan.

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

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

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

P. C. BOARS AND SOWS—large type, sired by more, Yorkshire. A. A. WOOD & SON, Saline, Michigan.

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

Stop Raising Short Bodied Pigs—long ones weigh more, produce faster. For sale. WATERMAN & WATERMAN, Ann Arbor, Mich., Meadowland Farm.

MAMMOTH YORKSHIRES—Increase Bank Accounts, Alfalfa fed. Pedigrees furnished. CRIBBS BROS. Watervliet, Michigan.

Lillie Farmstead YORKSHIRES

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

Markets.

GRAINS AND SEEDS.

April 23, 1913.

Wheat.—The wheat market exhibited a stronger tone last week than was anticipated, although quotation changes were within reasonably narrow limits, both for cash and future contracts. The situation in America is less bullish than abroad for the growing crop here is developing under ideal conditions except that there is a little fear of damage from dry weather in the southwest unless rain falls soon. From England and Europe there comes a strong demand and it appears that the American market is about the cheapest source at the present time. Cargoes from Argentina have greatly diminished during recent days and the quality of the wheat from that country is inferior to that sent out earlier. Canadian brokers are holding their stocks for better values, which is forcing buyers to come to this country. Roumania is growing over a million acres less than in normal years and France has a short crop. On the other hand, harvesting conditions in India are favorable, the European visible supply is increasing and good weather prevails in western Europe for developing what wheat is growing. England is competing with the continent for cargoes from abroad and this competition seems to give the foreign demand a healthy tone. One year ago the price for No. 2 red wheat on the local market was \$1.14 per bu. Detroit quotations for the week are:

	No. 2	No. 1	Red.	White.	May.	July.
Thursday	1.08 1/4	1.07 1/4	1.08 1/4	1.08 1/4	1.08 1/4	1.08 1/4
Friday	1.09	1.08	1.09	1.09	1.09	1.09
Saturday	1.09 1/2	1.08 1/2	1.09 1/2	1.09 1/2	1.09 1/2	1.09 1/2
Monday	1.09 1/2	1.08 1/2	1.09 1/2	1.09 1/2	1.09 1/2	1.09 1/2
Tuesday	1.09 1/2	1.08 1/2	1.09 1/2	1.09 1/2	1.09 1/2	1.09 1/2
Wednesday	1.10	1.09	1.10	1.10	1.10	1.10

Chicago, (April 22).—No. 2 red wheat, \$1.07@1.09 1/2; May, 91 1/2c; July, 91 1/2c; Sept., 90 1/2c per bu.

New York, (April 22).—No. 2 red wheat \$1.16 f. o. b. afloat; May, \$1.00 1/2; July, 99c; Sept. 97 1/2c per bu.

Corn.—Quotations show a slight improvement for this cereal. The influence of wheat undoubtedly was the greatest factor, although there exists a normal demand and the farmers are too busy to make deliveries at primary elevators. While the Chicago market on Tuesday showed weakness, Liverpool cabled higher quotations. The Detroit market is dull and firm and very little corn is being offered. One year ago No. 3 corn was quoted here at 79 1/2c per bu. Quotations for the past week are:

	No. 3	No. 3
	Corn.	Yellow.
Thursday	56	57
Friday	56 1/2	57 1/2
Saturday	57	58
Monday	57	58
Tuesday	57	58
Wednesday	57	58

Chicago, (April 22).—No. 2 corn, 56 1/2c; No. 3, 55 1/2c; May, 55 1/2c; July, 54 1/2c; Sept., 57c per bu.

Oats.—This cereal lost some of the strength shown last week and quotations now stand at the same figures as ruled two weeks ago. The deal is easy with a comparatively small volume exchanging hands. One year ago standard oats were quoted at 63c per bu. Local quotations for the past week are:

	Standard.	No. 3
	White.	White.
Thursday	39	38
Friday	39	38
Saturday	39	38
Monday	39	37 1/2
Tuesday	38	37
Wednesday	38	37

Chicago, (April 22).—No. 2 oats, 33 1/2c; No. 2 white, 36 1/2c; May, 34 1/2c; July, 34 1/2c; Sept., 34 1/2c per bu.

Beans.—Although a further advance of 5c is noted in quotations for beans, the local market continues sluggish with very few transactions taking place. Immediate, prompt shipment and May beans are all quoted at \$2.05 per bu.

Chicago, (April 22).—With the exception of white kidney beans, all the different grades show substantial increases in price since a week ago. Pea beans, hand-picked, fancy, are now quoted at \$2.55; choice, \$2.25; prime, \$2.15; red kidneys, \$2; white kidneys, \$2.50 per bu.

Clover Seed.—Common seed has held steady, while alsike shows a 50c advance. This market has quieted considerably within the past week. Cash seed is now quoted at \$13.25 and prime alsike at \$13 per bu.

Toledo, (April 22).—With a diminished call for seed, prices here have declined, cash seed now being quoted at \$13.40 and April at \$13.30 per bu. Prime alsike is in better demand at an advance of 55c per bu., now being quoted at \$13.10 per bushel.

Timothy Seed.—This product is unchanged in price with trade moderately active. Prime spot sold Tuesday at \$1.70 per bu.

Toledo, (April 22).—Timothy seed is steady, cash being quoted at \$1.70 per bu. and September at \$1.92 1/2.

Rye.—There is a fairly good call for rye at the present season and the market has advanced 1c since last week. No. 2 rye now being quoted at 63c per bu.

Chicago, (April 22).—Quotations for rye are higher at this point under a better demand. No. 2 rye, 63@64c per bu.

Barley.—Chicago, (April 22).—Values are unchanged, the different grades ranging in price from 46@69c per bu.

FLOUR AND FEEDS.

Flour.—Jobbing lots in 1/2 paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent, \$5.50; second, \$5.20; straight, \$5; spring patent, \$5.10; rye flour, \$4.60 per bbl.

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

Hay.—Choice grades higher; others are steady. Carlots on track at Detroit are: No. 1 timothy, \$14.50@15; No. 2, \$12@13; light mixed, \$13.50@14; No. 1 mixed, \$12@13 per ton.

Chicago.—Prices are off since a week ago. Choice timothy, \$17.50@18.50 per ton; No. 1, \$15@16; No. 2 and No. 1 mixed, \$13@14; No. 3 and No. 2 mixed, \$10@12; clover, \$7.50@12.50; alfalfa, choice, \$17.50@18.50; do., No. 1, \$15.50@17.50 per ton; do. No. 2, \$12.50@14.50.

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

Chicago.—All grades show a firming of prices. Rye, \$8.50@9; wheat straw, \$6.50@7; oat straw, \$7@7.50 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—Nominally all markets are about steady with last week although in reality an easier feeling is apparent at some points. Elgin is declared firm at unchanged figures. Creameries in the local market are quoted 1c higher but this is only a belated advance made by other markets last week. The general tendency, however, seems toward lower values, the only exception being the strength which packing stock is showing in most markets. Detroit jobbing prices rule as follows: Fancy creamery, 34c per lb.; firsts, 32 1/2c; dairy, 24c; packing stock, 22c.

Elgin.—Market firm at 33c.

Chicago.—Receipts are increasing here, with prospects of a more rapid increase in the near future, and dealers are shading quotations slightly in their efforts to prevent accumulation. Nominally steady and unchanged except for an advance on packing goods. Quotations are: Extra creamery, 34c; extra firsts, 33@33 1/2c; firsts, 32@33c; seconds, 30@31c; dairy extras, 31@32c; firsts, 28c; seconds, 25c; packing stock, 12@26c as to quality.

New York.—This market is reported unsettled. Packing stock and the under grades of dairy are quoted higher; other kinds nominally unchanged. Quotations: Creamery extras, 35 1/2c; firsts, 34 1/2@35c; seconds, 33 1/2@34c; state dairy, finest, 34@35c; good to prime, 33@34c; common to fair, 29@32c; packing, 23@27 1/2c as to quality.

Eggs.—The storage demand, which calls for choice stock, is holding the egg market firm in spite of continued heavy offerings. The local market is in good condition with the ruling quotation 1/4c below that of a week ago. At Detroit current offerings, candled, and cases included, are quoted at 18 1/4c per dozen.

Chicago.—Southern receipts are being discriminated against in this market since the quality is such as to make them less desirable than stock from other sections. The demand for good stock continues excellent, both for consumptive and for storage purposes, and values show little fluctuation. Miscellaneous receipts, cases included, are quoted at 16 1/2c; do., cases returned, 16@17 1/4c; ordinary firsts, 16@17 1/4c; firsts, 17@18c; storage packed, firsts, 18 1/2@18 3/4c.

New York.—Practically no change in values. Market reported irregular. Fresh gathered extras, 21c; firsts, 19 1/2@20c; fresh gathered storage packed, firsts, 19 1/2@20 1/2c; western gathered, whites, 20@21 1/2c.

Poultry.—Last week's strong advance in hens has disappeared with the special demand which created it and the market this week is barely steady under light receipts generally. Quotations: Live.—Spring chickens, 17 1/2@18c; hens, 17 1/2@18c; No. 2 hens, 12@13c; old roosters, 12c; turkeys, 19@20c; geese, 15@15 1/2c; ducks, 18@20c per lb.

Chicago.—Demand moderate and entirely local. Fowls quoted lower. The quotations on live are: Turkeys, good weight, 15c; others, 10c; fowls, good, 16c; broilers, \$3.50@7 per doz; ducks, large, fat, 18c; do. thin, ordinary, 15@16c; geese full feathered, 12c; do. plucked, 8@10c per lb; guinea hens, \$4 per dozen.

Cheese.—New York flats lower; no other changes. Wholesale lots, Michigan flats, new, 13 1/2@14c; old, 16 1/2@17c; New York flats, new, 15@15 1/2c; old, 17@17 1/2c; brick cream, 14@14 1/2c; limburger, 18@19c.

Veal.—Weak and materially lower. Fancy, 11 1/2@12c; common, 9@10c.

Chicago.—Supplies are in advance of the demand just at present and the arrival of warm weather is placing dealers on the defensive. Prices are a full cent lower. Fair to choice, 80@110-lbs., 11@12c; extra fancy stock, 12 1/2c; fair to good chunky, 10@11c.

FRUITS AND VEGETABLES.

Apples.—This fruit is firm and active at last week's prices. Storage goods are moving out rapidly. Detroit quotations now are: Fancy, per bbl., \$2.50@3.50; ordinary, 75c@1.50 per bbl.

Chicago.—The best grades of apples are firm at the recent range of values. Common kinds move slowly and are hard to place. Standard winter varieties, \$2@4 per bbl. for the best grades.

Potatoes.—The run of potatoes is heavy and the trade is slow and unsatisfactory from over-supply. Values remain unchanged. Michigan stock in car lots, 43@45c per bu.

Chicago.—Increased receipts and a drugged market crowded quotations down last week several cents. Movement slow but was improved slightly by the reduction of prices.

Fancy Michigan stock, 30@38c per bu; best Wisconsin, 30@36c; Minnesota, 30@38c per bu.

WOOL.

Boston.—The local sales of wool here are so insignificant as to attract scarcely any attention, especially since it is the season when interest is centered in the producing section and also because of the attitude of Congress toward the wool industry, it being anticipated that free wool will be provided for in the new tariff schedules. Wool buyers and manufacturers are anxious for the admission of wool duty free, provided they can retain a protection on the manufactured article, which condition would enable them to buy their raw material in a world market and sell their product in a protected market. It is predicted that the removal of the duty will lower wool values to the growers from five to six cents per pound. There is already some selling of wools in Michigan from early shorn lambs at around 20c per lb. In the west a few transactions have been made at prices substantially the same as a year ago.

Grand Rapids.

Fifty sellers were on the city market Tuesday morning and prices paid for fruit and produce were as follows: Pieplant, \$1.30 per bu; lettuce, 12c lb; cabbage, 30c; parsnips, 35c; onions, 3 doz. for 20c; asparagus, \$1.25 per doz; potatoes, 45c; Baldwin apples, 90c@1. The potato market is weaker, prices at loading points dropping 3@5c. Dairy butter is steady at 26c, and fresh eggs delivered are quoted at 17 1/2c. Live poultry is in good demand, with fowls and springs at 14@16c. The mills are quoting grain as follows: Wheat, \$1.04; oats, 38c; corn, 58c; beans, \$1.70. Lettuce from greenhouses has doubled in price during the past week and is bringing 12c a lb.

THE LIVE STOCK MARKETS.

Buffalo.

April 21, 1913.

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

Cattle.

Receipts of stock here today as follows: Cattle, 180 cars; hogs, 85 double decks; sheep and lambs, 50 double decks; calves 1500 head.

With 180 cars of cattle on our market here today, nearly all cattle weighing from 1100 lbs. up sold about steady to 10c lower than last Monday. All the butcher grades from 1100 lbs. down sold from 10@20c per cwt. lower than last Monday; however, at the close about everything was cleaned up, and we look for a steady to a higher market for the balance of the week.

We quote: Best 1350 to 1500-lb. steers \$8.80@9.10; good prime 1200 to 1300-lb. do., \$8.75@8.85; good to prime 1100 to 1200-lb. do., \$8.25@8.50; coarse, plainish 1100 to 1200-lb. steers, \$7.25@7.75; medium butcher steers, 1000 to 1100, \$7.50@8.10; butcher steers, 950 to 1000, \$7.25@7.75; light butcher steers, \$6.50@7.25; best fat cows, \$6.75@7.50; butcher cows, \$5.50@6; light do., \$4.50@5; trimmers, \$3.75@4; best fat heifers, \$7.50@8.25; medium butcher heifers, \$6.50@7.25; light do., \$6@6.50; stock heifers, \$5.25@5.50; best feeding steers, dehorned, \$7.25@7.50; fair to good do., \$6.75@7; prime export bulls, \$7.25@7.50; fair to good do., \$6.75@7; bologna bulls, \$5.75@6.50; stock bulls, \$5.25@6; best milkers and springers, \$6.50@8; common to fair kind do., \$4@5.00.

Receipts of hogs today were fully up to expectations, 85 double decks on sale. Demand was limited for all classes, and the general market 5@10c lower. Bulk selling at \$9.50; few heavies at \$9.40@9.45, and pig weights, as to weight and quality, from \$9.25@9.50; roughs, \$8.25@8.50; stags, \$7.25@8. Market closed about steady, and a fair clearance was made.

The sheep and lamb market was active today; prices about 15c higher than the close of last week. Most of the choice wool lambs selling at \$9.40@9.50. Clipped lambs mostly \$8.25@8.50. Look for about steady prices the balance of the week. Wool lambs about out of date. The clips will have the preference from now on.

Choice wool lambs, \$9.25@9.50; choice clipped lambs, \$8.25@8.50; cull to fair do., \$6.50@8.10; yearling wethers, clipped \$7.25@7.50; yearling ewes clipped, \$6.50@7; wethers, clipped, \$6.50@6.75; handy do., \$6@6.50; heavy do., \$6@6.25; cull sheep, \$3.50@5; veals, choice to extra, \$9.50@10; fair to good, \$6.50@9; heavy calves, \$4.50@6.

Chicago.

April 21, 1913.

Cattle. Hogs. Sheep.
Received today18,000 41,000 18,000
Same day last year, 22,198 65,585 23,439
Received last week, 49,337 109,122 71,876
Same week last year, 47,962 119,297 78,995

After unpleasant experience on recent Mondays, country shippers acted more cautiously, and instead of heavy cattle supplies and lower markets, the run today was small, so that sellers were able to get advances of 10c in a great majority of cases, this applying to nearly every description of cattle. Hogs opened 5c lower, and before the noon hour arrived numerous sales were reported at a dime lower, the top for the day being \$9.25. Hogs received last week averaged 245 lbs., compared with 242 lbs. a week earlier, 228 lbs. a year ago, 241 lbs. two years ago and 229 lbs. three years ago. The small offerings of sheep and lambs made a stronger market, and some sales were made a little higher.

Cattle have continued to decline in prices for another week because of too generous offerings coming on the market at a period when the consumption of beef, in common with other meats, is greatly curtailed. The warm spring-like days tend to lessen the desire for beef

and mutton, and the great abundance of eggs of choicest quality, which are offered in the retail groceries everywhere at very low prices, renders them highly acceptable to families in place of the dearer meats. Beef steers have been going mainly at a range of \$7.90@8.85, with sales of the choicer class of long-fed heavy cattle at \$8.80@9.25, one sale being made at the top figure, with not much trading above \$9. The cheaper class of light steers, many of which were marketed prematurely on account of muddy feed lots, brought \$7.25@8, and pretty good to prime yearling steers found buyers at \$8.35@9, few going around the top. Even cows and heifers have participated fully in the downward movement at last, although they are invariably in brisker demand than steers, and recent sales took place at \$4.90@8.40 for butchering descriptions, while cutters went at \$4.30@4.85, canners at \$3.25@4.25 and bulls at \$5.25@7.75. It is generally expected that as pasturage improves, the call for stockers and feeders will show improvement, but it may be set down as certain that this outlet will be discouraged if the recent high prices are charged by owners, for they have sold for weeks too close to finished beef cattle. Recent sales of stockers were at \$6.50@7.90, while most feeders carrying considerable weight found buyers at \$7.40@8.10, a few common weighty feeders going as low as \$7.15. Calves have been selling freely at \$5@8.90 per 100 lbs., with most of the strength in choice light vealers, while milch cows sold only fairly at \$5@8.50 each. The average decline in cattle of various kinds for the week, the best excepted, was 10@15c, while the best calves closed at \$8.35.

Hogs have rallied on some days, recovering part of their declines in prices, but the prevailing tendency of the market has been one of pronounced weakness, this being brought about by the marked falling off in the eastern shipping demand. Whenever this outside buying drops off in any very appreciable degree, prices are pretty sure to suffer, unless the receipts decline correspondingly, and the offerings have been as large as usual. Demand centers still in choice light hogs adapted for the fresh meat trade, with medium weights selling next best and extremely heavy packing lots slowest and much the lowest of all. Prices have covered a wide range, with prime strong-weight pigs selling especially well. Eastern markets have been getting more hogs from their home territory, and there, as well as elsewhere, the high prices are tending to check the consumption of hog products to some degree, this being particularly true of cured meats, although stocks of provisions are still much smaller than in former years. The biggest demand is for fresh pork. On the low day of the week the best swine brought \$9.10, and closing prices stood at \$8.70@9.30, with stags at \$9.25@9.50, boars at \$3.75@5 and pigs at \$7.10@9. A week earlier the best hogs went at \$9.37 1/2.

Lambs have continued to comprise most of the offerings received in the sheep house, and they are still the prime favorites with buyers and sell high as compared with former years, although big breaks in prices have taken place recently. Sheep also have taken a downward course, the eastern dressed mutton trade having fallen off materially of late. Recent shipments of sheep and lambs eastward from Chicago have undergone a decided reduction, and this usually brings about lower prices here, provided, the receipts are of the ordinary proportions. A close watch is always kept on the Buffalo and Pittsburgh markets, and when they are dull and lower, Chicago is immediately affected. Clipped flocks have been showing up much more extensively, warmer weather encouraging owners to have their holdings sheared before marketing, and these offerings have met with more favor from killers. At the close of the week sheep and lambs were 40@60c per 100 lbs. lower than a week earlier, woolled flocks going as follows: Lambs, \$6.50@8.75; yearlings, \$7@7.75; wethers, \$6.10@7.50; ewes, \$4.25@6.75; bucks, \$5@6; feeder lambs, \$6.50@7.85.

Horses were in good supply last week, with the best representation of choice animals yet seen, and there was a large attendance of buyers from various places, especially from the east. Business was much more active than during any previous week this year, with sales at \$300 per head or better no longer exceptional, and a gray gelding was sold to Swift & Company for \$500. A car load of prime Kansas horses sold extremely well, the cheapest horse going at \$312.50 and a gray fetching \$387.50, while a pair of browns sold at \$685. Pairs of Clydesdales and Belgian-Clydesdale cross went at \$650 and thereabouts, and plenty of farm workers were sold on the basis of \$140@215 per head, while pairs of choice farm mares brought \$425@450. Finished chunks sold singly at \$240@275, their weights running from 1,400 to 1,500 lbs., and inferior horses were slow sellers at \$85@125.

Sheepmen of Tennessee and Kentucky are in no hurry about contracting their crop of spring lambs for future delivery, fully realizing that they are certain of securing extremely high prices.

An evil of very long standing in the Chicago cattle trade is the common practice of marketing much more than half of the entire week's supplies on Monday, thereby greatly unsettling prices and playing into the hands of buyers. For years there have been strong efforts made by the live stock commission firms engaged in business in Chicago to reform this evil, and the different buying interests have agreed to buy as freely on what are termed the "off days" as on Monday and Wednesday, the two days when the great bulk of the cattle come to market, but it has been the common practice to fail to live up to the agreement, so that the old order remains in vogue and is likely to continue indefinitely.

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.

April 24, 1918.

Cattle.

Receipts, 1545. Bulls steady; all other grades dull and 10@15c lower than last week.

We quote: Best steers, \$8@8.50; steers and heifers, 1000 to 1200, \$7@7.50; do. 800 to 1000, \$6.75@7.25; do that are fat, 500 to 700, \$6@7; choice fat cows, \$6.50@6.75; good do., \$5.75@6.10; common do., \$4.50@5.10; canners, \$3.75@4.15; choice heavy bulls, \$7@7.25; fair to good bolognas, bulls, \$6@6.50; stock bulls, \$5@5.75; choice feeding steers, 800 to 1000, \$7@7.25; fair do., 800 to 1000, \$6.25@6.50; choice stockers, 500 to 700, \$6@6.35; fair stockers, 500 to 700, \$5.50@6; stock heifers, \$5@5.50; milkers, large, young, medium age, \$65@75; common do., \$35@50.

Spicer & R. sold Sullivan P. Co. 3 cows av 1043 at \$6.25, 3 do av 1117 at \$6.90, 3 do av 1073 at \$6.60, 6 do av 1028 at \$6, 2 bulls av 1370 at \$6.50, 11 steers av 868 at \$7.60, 3 heifers av 753 at \$7, 11 butchers av 936 at \$7.25, 4 heifers av 680 at \$6.25; to Breitenbeck 14 butchers av 1017 at \$7.60; to Nagle P. Co. 2 bulls av 1675 at \$7; to Hammond, S. & Co. 2 do av 1210 at \$6.75, 4 heifers av 700 at \$7; to Hall 8 stockers av 762 at \$6.50; to Nagle P. Co. 1 bull weighing 1280 at \$7; to Hammond, S. & Co. 1 do weighing 1240 at \$6.75, 1 do weighing 1050 at \$6.50; to Mason B. Co. 15 butchers av 921 at \$7.65, 1 steer weighing 800 at \$7, 2 do av 975 at \$7.75; to Kamman B. Co. 8 steers av 790 at \$7.35; to Heinrich 8 do av 1104 at \$7.80; to Newton B. Co. 2 do av 1160 at \$8.25, 7 cows av 900 at \$6.50, 1 heifer weighing 850 at \$7.25.

Haley & M. sold Newton B. Co. 5 steers av 814 at \$7.15, 1 cow weighing 1010 at \$6.50, 1 do weighing 780 at \$5, 4 do av 780 at \$4, 1 bull weighing 800 at \$6, 1 steer weighing 910 at \$7, 7 do av 1090 at \$8, 5 do av 732 at \$7.75, 3 cows av 1083 at \$6, 2 cow and bull av 1010 at \$6; to Sullivan P. Co. 6 steers av 908 at \$7.30, 2 bulls av 740 at \$6.75, 2 heifers av 665 at \$6.25, 4 steers av 855 at \$7.25, 2 cows av 830 at \$5.25, 1 heifer weighing 610 at \$6.50, 7 steers av 973 at \$7.75; to Nagle P. Co. 2 cows av 110 at \$6.25; to Kamman B. Co. 13 steers av 970 at \$7.65; to Bresnahan 4 stockers av 443 at \$5.80, 1 heifer weighing 750 at \$7; to Breitenbeck 1 cow weighing 880 at \$5, 4 cows av 810 at \$4.50, 1 do weighing 1040 at \$5.50, 1 do weighing 890 at \$5; to Nagle P. Co. 2 cows av 1080 at \$6.25, 1 do weighing 840 at \$5.75, 2 do av 1130 at \$6.25, 2 steers av 1085 at \$7.60, 2 do av 1140 at \$8; to Schuman 16 butchers av 903 at \$7.50; to Breitenbeck 3 do av 810 at \$7, 5 cows av 960 at \$5.25; to Sullivan P. Co. 2 do av 1130 at \$6, 2 do av 835 at \$3.75, 1 heifer weighing 760 at \$5, 1 do weighing 720 at \$6, 8 butchers av 861 at \$7.25; to Mich. B. Co. 2 steers av 1200 at \$8.35.

Bishop B. & H. sold Sullivan P. Co. 3 cows av 1077 at \$6.50, 11 steers av 662 at \$7, 4 cows av 880 at \$5, 8 do av 1041 at \$6.75, 3 do av 717 at \$6, 1 bull weighing 1300 at \$7; to Thompson Bros 1 canner weighing 740 at \$3.75; to Hammond, S. & Co. 1 cow weighing 690 at \$3.50, 4 cows and bulls av 927 at \$5.75; to Casey 3 cows av 866 at \$4.50; to Parker, W. & Co. 23 butchers av 772 at \$7.40, 22 do av 935 at \$7.75, 20 do av 769 at \$7.40, 4 steers av 807 at \$7, 4 heifers av 700 at \$6.50, 1 bull weighing 1200 at \$6.75, 2 cows av 1085 at \$5.50, 2 heifers av 785 at \$7.25, 3 bulls av 1197 at \$6.75, 21 butchers av 791 at \$7.10; to Hammond, S. & Co. 6 do av 820 at \$7.35, 3 do av 610 at \$6.50, 1 bull weighing 1320 at \$6.75, 2 cows av 1170 at \$5.50, 8 do av 1106 at \$6.50, 3 do av 1073 at \$4.50, 5 do av 1012 at \$6, 2 do av 920 at \$4, 1 bull weighing 1160 at \$6.75, 1 ox weighing 1580 at \$7.25, 7 cows av 1034 at \$5.50; to Nagle P. Co. 19 butchers av 987 at \$7.85; to Sullivan P. Co. 3 cows av 900 at \$6.25, 1 do weighing 940 at \$4.50, 1 bull weighing 1160 at \$6.75; to Breitenbeck 20 steers av 980 at \$7.50; to Hammond, S. & Co. 2 cows av 1060 at \$6.75, 1 heifer weighing 920 at \$6.

Roe Com. Co. sold Nagle P. Co. 10 cows av 1130 at \$6.75, 3 steers av 1266 at \$8.50; to Wyness 1 cow weighing 1010 at \$5.50; to Kull 6 steers av 771 at \$7.85; to Breitenbeck 6 cows av 1005 at \$5, 1 do weighing 930 at \$4; to Newton B. Co. 11 heifers av 756 at \$7.25, 4 cows av 1022 at \$5.25, 4 steers av 870 at \$7.25, 25 butchers av 920 at \$7.60; to Bresnahan 1 cow weighing 860 at \$4.50; to Nagle P. Co. 1 bull weighing 1200 at \$7.25; to Sullivan P. Co. 12 cows av 1105 at \$6; to Thompson Bros. 2 do av 825 at \$4, 12 do av 1010 at \$6.25, 2 do av 1125 at \$6; to Sullivan P. Co. 1 bull weighing 1250 at \$6.75; to Newton B. Co. 20 butchers av 733 at \$7; to Kamman B. Co. 12 do av 812 at \$7.50, 4 do av 750 at \$7.25, 3 steers av 900 at \$7.35; to Nagle P. Co. 5 cows av 1196 at \$7; to Hammond, S. & Co. 1 bull weighing 1040 at \$6.50, 1 do weighing 1080 at \$6.50; to Bresnahan 2 cows av 920 at \$4, 2 bulls av 490 at \$5, 3 cows av 775 at \$4, 6 butchers av 576 at \$5.75; to Hammond, S. & Co. 1 bull weighing 1080 at \$6.50, 3 cows av 860 at \$5.35, 8 steers av 806 at \$7.50, 28 do av 760 at \$7.25; to Hall 4 feeders av 795 at \$7.25; to Sullivan P. Co. 13 steers av 1025 at \$7.75; to Ratkowsky 7 cows av 977 at \$6.10, 1 bull weighing 1000 at \$7.25; to

Nagle P. Co. 3 steers av 1183 at \$8.15, 3 do av 990 at \$7.65.

Veal Calves.

Receipts, 855. Good grades 50c higher than last week; others steady. Best, \$9 @9.50; others, \$5.50@7; milch cows and springers steady.

Roe Com. Co. sold Mich. B. Co. 8 av 125 at \$8.50; to Nagle P. Co. 3 av 155 at \$9; to Sullivan P. Co. 1 weighing 140 at \$7, 4 av 145 at \$9; to Nagle P. Co. 8 av 125 at \$8.50, 3 av 170 at \$6.50, 4 av 145 at \$8.50, 8 av 120 at \$7.50, 24 av 135 at \$8.50, 5 av 125 at \$7, 15 av 135 at \$9.25. Sandall sold Nagle P. Co. 10 av 132 at \$8.75.

Spicer & R. sold Nagle P. Co. 3 av 145 at \$9.25, 9 av 140 at \$9.50, 1 weighing 110 at \$8, 1 weighing 140 at \$9, 50 av 145 at \$8.75; to Goose 3 av 140 at \$9.25, 1 weighing 110 at \$8; to Newton B. Co. 7 av 140 at \$9.

Bishop, B. & H. sold Thompson Bros. 27 av 130 at \$8; to Sullivan P. Co. 10 av 130 at \$9, 5 av 125 at \$8; to Goose 35 av 128 at \$7.50, 20 av 130 at \$7.50; to Nagle P. Co. 5 av 125 at \$8.50, 9 av 138 at \$8.75, 3 av 150 at \$9.25; to Parker, W. & Co. 6 av 130 at \$9, 2 av 125 at \$8.50, 2 av 120 at \$9, 4 av 145 at \$9.25, 1 weighing 130 at \$9.50, 4 av 145 at \$9.50, 3 av 120 at \$9, 6 av 135 at \$9.25; to McGuire 6 av 135 at \$8.75, 12 av 120 at \$8; to Hammond, S. & Co. 8 av 110 at \$7, 19 av 125 at \$9.50; to Newton B. Co. 44 av 135 at \$9.25; to Sullivan P. Co. 5 av 125 at \$8, 12 av 130 at \$8, 17 av 135 at \$9; to McGuire 6 av 165 at \$9, 6 av 140 at \$8.75.

Sheep and Lambs.

Receipts, 4204. Market steady at Wednesday and last week's prices. Best lambs, \$7.50@7.75; fair to good lambs, \$6.75@7.25; light to common lambs, \$5.50@6.50; yearlings, \$6.75@7; fair to good sheep, \$6.25@6.50; culls and common, \$3.50@4.50.

Haley & M. sold Nagle P. Co. 200 lambs av 65 at \$7.25, 72 do av \$5 at \$7.60.

Vaughan Bros. sold Sullivan P. Co. 26 lambs av 60 at \$6.

Bishop, B. & H. sold Hammond, S. & Co. 14 lambs av 60 at \$6.75, 13 sheep av 105 at \$6; to Sullivan P. Co. 12 lambs av 65 at \$7.50, 17 do av 67 at \$7.50, 73 do av 58 at \$5.50, 11 spring lambs av 48 at \$10; to Mich. B. Co. 54 sheep av 90 at \$5, 42 do av 95 at \$5.25, 14 do av 120 at \$5.50; to Nagle P. Co. 31 lambs av 70 at \$7, 80 do av 75 at \$7.35, 162 do av 67 at \$7.30; to Bray 176 do av 73 at \$7.25, 49 do av 48 at \$4.50, 63 do av 55 at \$5.50; to Thompson Bros. 30 lambs av 55 at \$7.25; to Hayes 27 do av 45 at \$4.50; to Swift & Co. 260 lambs av 78 at \$7.75; to Hammond, S. & Co. 14 sheep av 115 at \$4.50, 4 do av 120 at \$6; to Sullivan P. Co. 10 lambs av 61 at \$6.50, 40 do av 55 at \$6.25, 39 do av 53 at \$6.25, 10 do av 48 at \$5; to Young 48 do av 68 at \$7.35, 13 sheep av 100 at \$5.50.

Roe Com. Co. sold Nagle P. Co. 56 lambs av 65 at \$7.50, 4 sheep av 155 at \$5.50; to Barlage 31 lambs av 55 at \$6, 8 sheep av 80 at \$5; to Hayes 39 lambs av 50 at \$7.

Spicer & R. sold Mich. B. Co. 31 sheep av 92 at \$5.10, 7 do av 140 at \$6, 5 lambs av 75 at \$8, 9 do av 60 at \$7, 39 do av 50 at \$8, 5 sheep av 70 at \$4, 85 lambs av 60 at \$6.75, 50 do av 55 at \$6, 51 do av 60 at \$5.75, 183 mixed av 58 at \$4.85.

Hogs.

Receipts, 4805. No hogs sold up to noon; packers bidding steady to 5c higher; looks as below:

Range of prices: Light to good butchers, \$8.90@8.95; pigs, \$9; mixed, \$8.90@8.95; stags one-third off.

Bishop, B. & H. sold Hammond, S. & Co. 2110 av 180 at \$9, 670 av 250 at \$8.95. Roe Com. Co. sold Sullivan P. Co. 425 av 190 at \$9, 75 av 220 at \$8.95. Haley & M. sold Parker, W. & Co. 450 av 180 at \$9. Spicer & R. sold same 360 av 185 at \$9.

Leading firms engaged in breeding high-class cattle report a much improved demand for breeders, both male and female, with sales particularly large of Shorthorns, which are great favorites in the country. One breeder sold over 80 head of Shorthorn breeders during March. Prices are ruling much higher than last autumn, and many farmers regret putting off buying at a time when exceptionally low prices prevailed.

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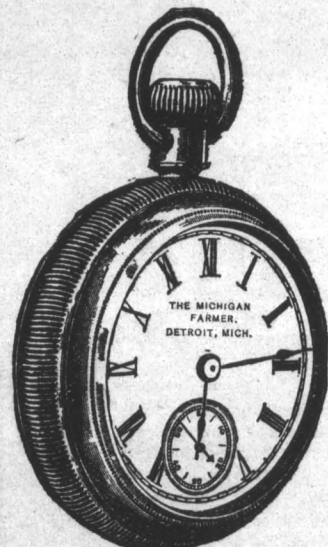
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Wishing to Go A-Fishing.

By J. A. KAISER.

I'm wishing to go a-fishing now,
Where coves in the shadows lie;
Where sweetly from o'er the hillside's brow
The song of the thrush floats by;
Where over the bank the willows lean,
And silver the red-wing's song
Sounds sweetly and faint the shores between,
On zephyrs soft-borne along.

I'm wishing to go a-fishing now—
To idle along the bank
In sun and in shade of bush and bough,

In grasses so wild and rank;
To cast for a time here in the cove,
And there in the eddy's whirl;
Then on, and yet on, to idly rove
O'er pebbles of gold and pearl.

I'm wishing to go a-fishing now,
And get, with my string of fish,
Yet nearer to Nature's heart, somehow—
That's what in my heart I wish.
I'm wishing to breathe the free and wild
On margin of lake and stream—
To be for a day Dame Nature's child,
And loiter, and muse, and dream.

THE HEART OF A WINNEBAGO.

BY GERTRUDE K. LAMBERT.

(Concluded from last week.)

When a white murderer is tried for a crime, even when there is every proof of his guilt, or none at all, the proceedings are almost certain to drag along wearily. Not so with the trial of Willie Rainbow. The jury was drawn without comment or objection. The witnesses were few, with little to tell. Several Indians were called, who sat with grim, immobile faces and grunted out monosyllables, or answered evasively, through the interpreter, the questions put to them. Several white men identified the prisoner as the young Tomah student whom they had seen with the murdered girl; this, with some details, comprised the testimony.

The prisoner refused the opportunity offered him to testify in his own behalf, and the jury, after brief deliberation, returned a verdict of "guilty;" the judge pronounced sentence—"ten years imprisonment"—and Willie Rainbow's trial was over. There were some expressions of surprise and disapproval from those not in the agent's confidence, but few white people were sufficiently interested to make comment.

School began at Sandy Plains the week after the trial, and Mary Eagle was among the first to greet the teacher upon her arrival at the schoolhouse. At sight of her, the feelings of distrust and dread which had obsessed Miss Melbye since her visit to the agent, changed to pity, deep and sincere. Without a trace of violent grief or tears, the Indian girl's cheeks were thinner, her eyes hollow and mournful, her lips firm set and unsmiling.

Miss Melbye's problem had lost none of its perplexing qualities, but she formulated one deduction: Evidently, the heart of a Winnebago maid can ache sorely.

Once more, however, Mary became the diligent student, and at the end of the first quarter her teacher assured her that she could easily finish the course in that school by the end of the year, and should plan to enter the Tomah school at the opening of the school year in September.

Mary made no comment, and gave no indication of any pleasure or gratification at the prospect.

During the winter Miss Melbye learned that Willie Rainbow was to be given another trial in the spring, which, she felt sure, meant an acquittal, and the burden of her secret suspicions grew correspondingly lighter. Often she tried to broach the subject to Mary, but as often the words were silenced by a look from the somber black eyes. Mary seemed to take refuge behind a barrier of reserve that served to exclude all advances of sympathy as well as curiosity.

Late in March school was closed for a short vacation before the final, or spring, term; it was during this time that Willie Rainbow was brought back to the county seat for a second trial. Of the few white people interested, probably none were surprised, and at least one was profoundly relieved when the news came that Willie Rainbow had been acquitted and set at liberty after eight months of imprisonment for a crime of which no one believed him guilty. But Mr. Jones had done his best, and if he had failed of his purpose, it was his misfortune, not his fault. The much discussed "Indian problem" of that section seemed still far from solution, and, obviously, the earnest, well meaning agent had, so far, missed the key.

School reopened on a bright spring morning, and Miss Melbye found a merry group gathered on the school grounds awaiting her coming, but Mary Eagle was not among them. The day passed without the Indian girl's presence, and the teacher was too busy upon this opening faces of Willie Rainbow and Mary Eagle. Side by side on the seat before

her they talked as happily as two pleased children, and answered her questions without hesitation.

"Would Mary come to school? Mary shook her head with a negative gesture, and glanced at Willie, who answered: "No, I think not," adding, with childlike frankness, "we go to town, next week, and be married, by minister."

Miss Melbye offered congratulations, especially sincere from her knowledge of the difficulty experienced in enforcing the civil laws of marriage and divorce among these irresponsible folk, who, although glad in most cases to assume the yoke of citizenship, are loath to take up its attendant burdens.

"And what then?" was her next question. "You really ought, both of you, to finish your school work. You are doing so well, it is a pity not to keep on."

"Yes," said Willie slowly, "but I think we do better in Nebraska. Mary's father have land there, on reservation; my father have land and much ponies. They not do well enough from it. I learned much farming at Tomah. I think we do well."

Yes, Miss Melbye was sure that they would. Then she ventured to speak of her pleasure and relief at Willie's freedom, and her regrets for his unjust imprisonment. "How unfortunate it was," she said, "that those white fellows chanced to notice you with Ella Green Grass on the night she was murdered."

Willie listened calmly, without any show of resentment. "That not me with Ella Green Grass," he said quietly, as a simple statement of fact.

"Not you!" Miss Melbye was as much startled by the admission as by the fact.

"I not with Ella Green Grass; I with Mary. She no like me talk with Ella Green Grass."

"Not you? Why, Willie, who was it?"

"You not tell?" he queried cautiously.

"No indeed! Why should I?"

"That, Tom Decorah. He of my class at Tomah."

"Why, Willie! And he stabbed poor Ella!"

Willie shook his head in dissent, saying ing day to give much thought to the probable cause of her absence. Sitting alone in the schoolroom, after the childish voices had drifted away into silence, gayly homeward bound, leaving a restful peace to the teacher, the weary woman barely repressed a cry of surprise when, without a warning sound, two figures suddenly appeared in the open doorway.

After the first start of alarm came an exclamation of pleasure and a hearty welcome; for she was looking into the smiling face of Willie. "He not stab Ella," then hesitated and looked searchingly into the white woman's face. "You not tell what I tell you?"

"You need have no fear of my telling. If you could suffer the long punishment without telling, surely I can keep the secret."

"Yes," he said thoughtfully, "I suffered punishment." Then he told, with a simple candor that left no doubt of its truth: "Tom Decorah, he all time with Ella Green Grass. His squaw, she no like. She heap—what you say—jealous. She get very much angry. He no mind her—" as he paused, Miss Melbye exclaimed excitedly, "And Tom Decorah's squaw stabbed Ella Green Grass?"

Willie nodded an assent, and she continued, "Oh, Willie! And you knew this, and took the punishment!"

"Me not shut up long. They get Tom Decorah's squaw, she be shut up long time—maybe always," he explained calmly.

"But, how could Tom Decorah allow you to be punished, when he, himself, was really to blame? It was cowardly of him!"

Willie made a graceful gesture of dissent. "Tom Decorah, he take squaw away, very quick, in the night—back to Nebraska."

"She have little babee, now," volunteered Mary, softly.

Miss Melbye arose and took Willie's hand, in her earnestness. "Willie," she said, "It was grand of you! It may have been wrong not to tell what you knew, but I honor you for what you have done. It is noble to suffer for the weak, and I am sure that you and Mary will be happy enough, now, to repay you both for what you have suffered." And Mary's eyes echoed her sentiments, with something more.

Later, when the two lithe young creatures walked away hand in hand, through the soft spring twilight, Miss Melbye stood in the doorway and watched, through misty eyes, until they faded into the gathering shadows.

"After all," she mused tenderly, "the heart of a Winnebago is just as certain, and just as incomprehensible, as the hearts of the rest of us."

LEADERS IN THE COMMUNITY.

BY CHARLES H. CHESLEY.

In every community there are leaders, and in no locality is this fact more potent than in the country districts.

A famous French writer has left us this: "As soon as a certain number of living beings are gathered together, whether they be animals or men, they place themselves instinctively under the authority of a chief." He might have gone further and written that this leader or chief is always one who has shown himself better able to take hold of the things within his reach, and who has grasped that elusive quality called prestige by simply using the nearest stepping stones.

We look upon those men who are leading in the arena of politics, in finance and in science as something apart from and above the "common herd," but they are only filling the same niche in present society that the chief or medicine man did in the stone age. In those days his position may have been gained by brute force, and today it is the same fundamental quality. It is prestige, and is gained by doing the things immediately at hand and doing them a little better than somebody else.

If one fact could be drummed into the minds of the thousands of young men and women who are still leaving the farms because "there are no opportunities in the country," the present-day problems of high prices of foodstuffs and the perennial strike disturbances would be largely solved. The place to do great things is not away off in some other place; it is right here at home. The home town is the place to gain prestige. The home town is furnishing for chiefs and dealers, men who will put the newer ideas of agriculture into actual practice. The state colleges are sending out such men, but so many of them adopt something a little apart from actual practical agriculture! One young man, scientifically trained and engaging in actual farming, is worth more to a community than a dozen millionaires with all their taxable property. Too often such a one is looked upon with some degree of scorn by the older school of farmers, but I have seen several such become leaders by simply demonstrating their fitness to lead. So I emphasize the thought that it is not necessary for young men to go away to the city to gain prestige. Use the nearest stepping stones and climb. Start right now, young men and women, in the old home town.

A WHITE, BLACK BEAR.

BY C. J. HAM.

Lewis Murphy, a farmer living in Midland county, in central Michigan, went rabbit hunting one day during the past winter and, while he had the experience of his life, his lack of knowledge of animal life cost him a small fortune.

In an old hollow log in the woods Mr. Murphy thought he might find a rabbit, so poked in the hollow with a long stick. A peculiar movement inside caused him to investigate more closely, whereupon he discovered a large animal curled up. Hurrying to his house, he secured an axe and additional help. Returning to the log, he split it open and out rolled a large bear, pure white in color. A blow on the head with the axe killed it before the dazed animal could wake up.

The costly mistake was this: Authorities at the state museum, and others who have later investigated the matter, declare the bear was a pure albino of the black species. Albino types of an species are rare enough in animal life, but an al-

bino black bear is something almost unheard of. Mr. Murphy had time, after discovering the bear asleep in the log, to return to his house for an axe and help; he had time to chop the log open, and time to kill the bear. Therefore, it is conclusive that he would have had time, had he known of the richness of his find, to have nailed up the openings of the hollow and saved this very rare specimen, which he could have sold to any zoo or amusement company for hundreds of dollars.

Unfortunately for him, he had never studied the animal life about him. He did not know that an albino was a very rare specimen. A half hour of reading on the subject, some evening after the farm chores were done, would have been worth more to him on this occasion than a whole summer's work. He did not prepare for the occasion. Opportunity, the greatest of his life, came easily within his grasp, but he knew not how to value it and it slipped away forever.

In every walk of life there is great need to know a little about everything, and considerable about those things not directly connected with our business, but which surround it very closely. Farmers, next to professional hunters and trappers, should make it part of their business to know about all phases of animal life, both domestic and wild. They are constantly meeting animal life in varied forms. Some day the "White, black bear" of opportunity will be found within easy reach and, unless they are prepared, they will be blind to it and allow it, or cause it, to slip forever away. When, on other occasions, they are not meeting great opportunities, a knowledge of animal life, apart from their knowledge of horses and cattle, will prove a pleasure and often a means of small profit.

LITTLE FARM FABLES.

BY AUNT QUILLIA.

A Trial and a Tragedy.

A muskrat, having built her house in the shallows of a pond near which a mink resided, became very unhappy over the fact that her offspring were not as handsome as those of her neighbor.

"Even in the eye of a parent," mused she, "their fur is comparatively coarse and ugly and their whole appearance lacking in grace and attractiveness, while to strangers they must seem positively uncouth. Indeed, I have noticed that everyone, strollers, hunters, trappers, and even that poky old naturalist who haunts these parts, are far more interested in her family than mine."

So much did she dwell upon her chagrin that at last her feelings gave vent to loud laments, and one day a wild duck who frequented the pond swam over to where she was grieving.

"Madam," said he, "you have great reason to congratulate yourself on what you term the painful plainness of your progeny. Instead of blaming nature for this, thank her for being thus kind, for, as I passed Mrs. Mink's I learned that her whole brood had been captured and carried away. Her home is desolate, and, no doubt by this time the skins of her darlings are tacked to rough boards or unsightly barn doors, or, perhaps, are on their way to the furrier's."

"One day as I hid in the rushes I heard a couple of trappers discussing two families in the man-world. In one the rosy-cheeked boys were so gallant and handsome, and the winsome girls so graceful and charming, that expressions of admiration concerning them were heard on every hand. Especially did the gay and thoughtless, and even those without honor or character, seek their company and soon win them into their circles."

"One after another the boys went to town and became resorters of the saloon and gaming table, and lost all standing among upright men. The girls, listening to the flatteries of base designers, also left their country home and, ere long, were classed among those without reputation or virtue."

"In the meantime the plainer family had risen in the regard of the better element of the community, and were looked upon as acquisitions to a quiet and cultured society."

"In concluding his remarks one of those trappers said: 'You know how it is, partner, the finer the pelt the greater the peril.'"

Hokus—Brownsmith was after a political job for a long time. What's he doing now?

Pokus—Nothing. He got it.

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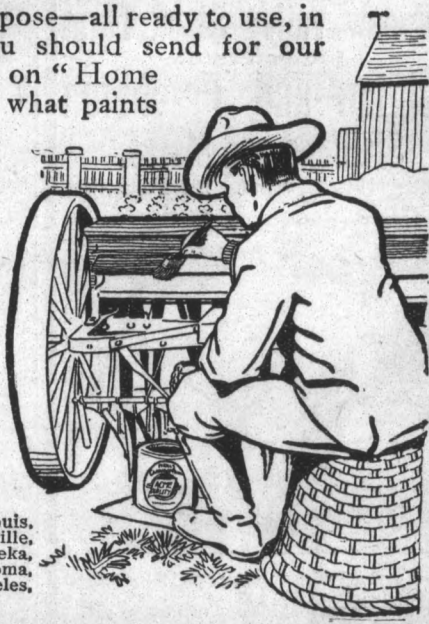
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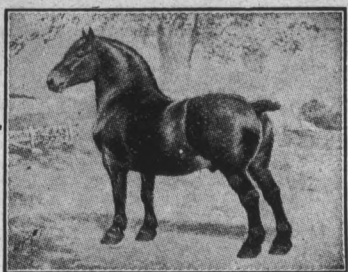
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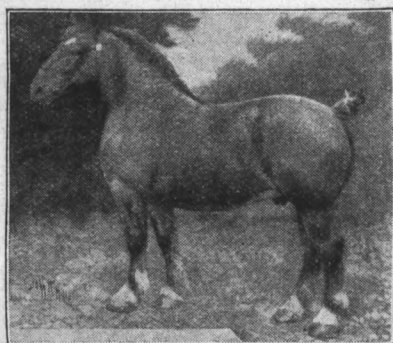
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Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. Many queries are answered that apply to the same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

Thickened Leg—Garget.—Last August my mare cut leg on disc harrow, making a wound on inside of shin which healed fairly well, but left leg thick. I have had it treated by two different horse doctors, but to no avail. The leg is much larger now than it should be, but it is not at all sore. She is with foal now and in good condition otherwise. I would also like to know treatment for garget in cows. G. E., Harrisville, Mich.—No matter what remedies you apply, you will not be able to reduce the swelling very much, but you may do harm. Therefore, I would advise you to use no harsh remedies, but wet leg with cold water and apply cotton and bandage over it, leaving the bandage on a few hours after she is used. This will have a tendency to gradually reduce the swelling. If you apply a remedy, use one part iodine and ten parts fresh lard occasionally. For chronic garget apply one part iodine and 15 parts fresh lard; also give ½ oz. hypo-sulphite soda at a dose in feed two or three times a day.

Chronic Lymphangitis—Lameness.—I have a horse that had lymphangitis a few weeks ago; swelling has reduced considerably, but the horse is quite lame. I have applied liquid blister and given him saltpeter, but he is no better. A. M. McD., Millersburg, Mich.—You made a mistake in applying liquid blister to leg. Hot water fomentations, then apply one part alcohol and two or three parts tepid water, this has a good deal better effect than strong liniments. Give your horse 2 drs. potassium iodide at a dose in feed three times a day. Feed him well salted bran mash, roots and mixed hay, and be sure to exercise him daily.

Cough—Surfeit—Seedy Toe—Navel Infection.—I have a cow that is troubled with a cough, she also has sores on neck and side. Also have a six-year-old mare that lost her colt one year ago last January, has been out of condition since and her fore feet are very brittle and flat. She will also have a colt soon and I would like to know how to treat its navel. F. T., Carleton, Mich.—Give your cow 1 oz. of ground licorice and ½ oz. Donovan's solution at a dose in feed three times a day. Apply one part oxide of zinc and four parts vaseline to sores on neck and side once a day. Stand your mare in wet clay two or three hours a day and apply lanolin to hoofs once a day. The umbilical cord should be tied with either a silk or linen string that has been soaked in an antiseptic, such as one part carbolic acid and 30 parts water, or one part carbolic acid and 10 parts olive oil. Or in crude coal-tar disinfectant, then apply any good home healing remedy, such as one part iodoform and 20 parts boracic acid, once or twice a day.

Obstructed Teat.—I have a cow that just came fresh which has a bunch in one teat and another cow that has a caked bag, affecting both quarters. Her bag became sore two months ago and all the inflammation seems to have left udder, but little milk comes from this one-half of her bag. Can anything be done to make her give more milk? H. C. J., Sandusky, Mich.—Apply one part iodine and 15 parts fresh lard to bunch two or three times a week. Nothing can be done to increase the flow of milk from diseased udder; however, you might try gentle hand-rubbing twice a day.

Rheumatism.—I am a reader of the Michigan Farmer and quite interested in the veterinary column. I have a last fall pig that is not thriving, shows stiffness, soreness and pain in hind quarters. It is not unusual to hear him squeal as if he was suffering pain. J. W., Vassar, Mich.—Give your hog 10 grs. of sodium salicylate at a dose three or four times a day and apply one part turpentine, one part aqua ammonia and four parts olive oil to hind quarters every day or two. Feed him more oats, oil meal and less corn. He should be kept in a dry, comfortable place.

P. T., Hastings, Mich.—The Vet. who attempted to assist your sow in delivering her pigs, did perhaps all that anyone could do, even if he failed to save her. I myself have found it almost impossible to successfully operate on some sows. Proper instruments are a great aid in doing this kind of work.

Sow that Eats Her Pigs.—In looking over the veterinary column, I notice that A. G., of Kalamazoo, Mich., asks how to prevent a sow from eating her pigs and I gladly give you a remedy. J. V., Hudsonville, Mich.—Just sprinkle common vinegar over the head of sow and be sure to wet her nose, and also sprinkle a little on her pigs, then watch the results. I cannot speak from experience because I have never applied this preventative; however, I wish readers of this paper who own sows that are inclined to eat their pigs would try it, then report results to me.—Ed.

Contagious Scours in Calves.—I wish someone would tell me what will cure calves of scours. We feed our calves separator milk, prepared calf meal, and it seems to scour our calves so badly that several have died in the past four

or five years. Our neighbors all feed separator milk and don't seem to have any trouble. We skim off the foam and scald the feed pails often. Is this kind of scours catching to the other calves? We had one take sick and die and in a few days the other took sick and I thought that perhaps he became diseased from the others. We have tried a great many different remedies, but none of them seem to effect a cure. E. F., Laingsburg, Mich.—Acute contagious scours in the new-born calves frequently affects every one of the herd and the calves seem to die within 24 to 48 hours. I have known the disease to affect every new-born calf that is dropped in the building. It is important that the diseased calves should be kept by themselves and the mothers of the diseased ones removed. With the bowel movements there is usually some blood and the discharge has an offensive odor. The disease germs evidently enter the body through the raw navel opening and if you will be less careless in treating the navel of your calves, you will have less scours and deaths. Tie the cord with sterilized silk or linen, taken out of a solution made by dissolving 1 oz. carbolic acid in 30 ozs. of water. The stump of cord and surrounding parts should be washed with the following solution: Iodine, ½ dr.; iodide potassium, ½ dr.; water, 1 qt. When dry may be covered with a coating of collodion or tar, each containing one per cent of iodine. Whenever a calf shows any signs of scouring, it should be immediately removed to another building and the building it left should be cleaned and disinfected. It is not good judgment to have the same man taking care of sound calves and infected ones; furthermore, litter and such like should never be mixed.

Sore Lips.—What is the cause and what will cure sheep that are troubled with sore mouth? These sores have very much the appearance of a cold sore on a person. D. W. P., Gagetown, Mich.—Dissolve 2 ozs. borax in a quart of water and apply to mouth twice a day.

Enlarged Fetlock Joint.—One of our two-year-old fillies cut ankle joint last July; wound healed, but left joint thickened and I would like to know what will reduce this thickening. Mrs. E. C., Beaverton, Mich.—Apply one part iodine and ten parts fresh lard to bunch three times a week.

Scratches.—For the past 30 days my three-year-old colt has been troubled with scratches and I would like to know of a remedy. C. L., Tawas City, Mich.—Dissolve ¼ lb. sugar of lead, ¼ lb. sulphate of zinc and 2 ozs. of carbolic acid in 1 gal. boiled and clean water and apply to sores three times a day. Give him ¼ oz. Fowler's solution at a dose in feed three times a day.

Stocking.—I recently purchased a six-year-old mare and whenever she stands in stable a day, she stocks in both hind legs. M. B., Novi, Mich.—Give her a dessertspoonful of powdered nitrate of potash at a dose in feed twice daily. Change her feed and keep bowels active.

Weak Ligaments.—The fetlock joint of my five-year-old mare rocks at every step and seems to be in and out of place. D. A. DaB., Saline, Mich.—Clip hair off and apply one part powdered cantharides and six parts fresh lard once every week or ten days. She will be benefited by rest; however, doing light work should not hurt her. If you work her apply less ointment at a time.

Scar and Fungus.—I have a horse that was cut with barb wire and wound seems to be healing with a large ridge of proud flesh in wound and I would like to know what to apply to cut down fungus in sore. H. S. S., Midland, Mich.—Either cut off fungus with a sharp knife or apply powdered sulphate of copper to proud flesh only every day or two, or burn off fungus with an iron at a white heat; then apply iodoform lightly daily.

Worms.—I would like to know what to give a yearling colt that is troubled with long round worms. H. VdB., Augusta, Mich.—Give colt tablespoonful of ground gentian root, a dessertspoonful of ground quassia and a dessertspoonful of salt at a dose in feed twice a day.

Bone Spavin.—About five months ago my mare injured left hind leg which was soon followed by lameness. When starting she walks on toe, but gradually improves, then travels almost sound. A neighbor, who is a horseman, tells me she has spavin. F. E. L., Decatur, Mich.—Give her rest and apply one part red iodide mercury and four parts lard every ten days, or apply any one of the guaranteed bone spavin remedies that are regularly advertised in this paper.

Impaction—Puncture.—On April 6 my cow appeared to be perfectly well; on the seventh we found her sick, giving one-eighth of her regular milk flow, and she died the following morning. She refused food, but drank water; I gave her two quarts of linseed oil, one quart at a dose. I opened her after death and found some stones, a tack, one nail and a piece of tin in her stomach, but the contents of bowels were fairly soft. Can I do anything to prevent my other cows dying? J. O., Maple City, Mich.—You need have no fear of your other cows dying, unless they swallow foreign body that will puncture some one of their vital organs. Your cow first showed symptoms of indigestion, impaction of stomach, but died the result of puncture.

Rheumatism.—I have some fall pigs which I have been fattening and they are ready for market, but recently they have become stiff in hind legs and are inclined to have poor use of them. J. W. S., North Branch, Mich.—The quicker you market your pigs, the better.

Breeding Question.—Have a large brood sow that farrowed 11 pigs April 4-5, and on April 6 she mated accidentally with one of her last fall pigs; now what can be done to abort her? J. M., Omena, Mich.—You had better leave her alone as she may have a very nice litter of pigs to this service; however, it is rather too close in-breeding.



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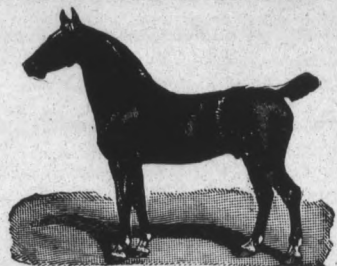
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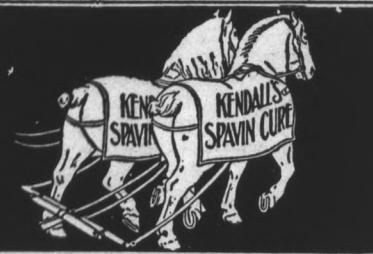


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Laryngitis.—When my two horses eat grain they seem to cough considerably, and cough some when trotting. W. D. S., Lake, Mich.—Give each of your horses 1 oz. ground licorice, ½ dr. powdered opium and 1 dr. ground nux vomica at a dose in damp feed twice a day. Apply one part turpentine, one part aqua ammonia and six parts olive oil to throat once a day.

Heaves.—My 11-year-old horse has the heaves and I am inclined to think a bad case. F. W., Suttons Bay, Mich.—Feed no clover, or dusty, musty, badly-cured fodder, and very little bulky food. His food supply should be mostly grain and if he is a ravenous eater, bed him with shavings or sawdust. Give ½ oz. Fowler's solution, 1 dr. powdered lobelia, ½ oz. ground gentian and 1 dr. muriate ammonia at a dose in damp feed three times a day. He should be fed a good quality of food and not overworked.

Stocking.—Our local Vet. treated my six-year-old mare for thoroughpin, blistered her several times, which cured lameness, but since then leg stocks, but exercise takes it down. J. G., Selkirk, Mich.—Wet leg with cold water and apply cotton and a bandage over it, leaving it on for two or three hours. Give her a dessertspoonful powdered nitrate potash and 1 dr. ground nux vomica at a dose in feed three times a day.

Malignant Sore-Barren Mare.—Several months ago my colt cut leg on barbed wire and wound has never healed. I have also a seven-year-old mare that we have failed to get with foal and I understand she has never been pregnant. J. J. N., Lapeer, Mich.—Remove scab and burn fungus with iron at white heat, then apply one part iodoform and ten parts boracic acid twice a day. Your mare is barren; however, you might make inquiry of a stallion owner as to best method of getting her with foal.

Indigestion—Weakness.—I have a 14-year-old horse that fails to lay on flesh, has a very heavy rough coat and is unthrifty. Our chickens dump around, dragging their feet, walking knock-kneed, some of them go blind and soon die. S. A. G., Paris, Mich.—Your horse should be clipped, then give him a dessertspoonful of Donovan's solution, two tablespoonfuls of fluid extract gentian and the same quantity of fluid extract cinchona at a dose in feed three times a day. You do not give enough symptoms of disease for me to make correct diagnosis of your chickens; however, I suggest that you clean, disinfect their coop, increase their food allowance and discontinue allowing them to roost in a draft. If their roost has open windows, cover the opening with muslin or cheesecloth.

Barren Mare.—I have a nine-year-old mare that has been bred for two seasons and fails to get with foal. She has no vaginal discharge and is in good condition. I also have another mare 15 years old that has raised a colt every year for the past two years, but failed to get with foal last fall. She is also apparently healthy. A. S., Mt. Clemens, Mich.—When she comes in heat inject her with a soda solution made by dissolving 1 oz. of bicarbonate soda in a pint of water. She should not be bred for three or four hours after this lotion is applied. Your other mare will perhaps get with foal this spring; however, it will do no harm to treat her the same as other mare.

Chronic Scratches.—I have an eight-year-old horse that has had scratches for several weeks and I have been applying medicated wool fat, but her heels have gradually grown worse. E. T., Camden, Mich.—Give your horse a tablespoonful of Donovan's solution at a dose in feed three times a day and apply one part chinosol and 100 parts water to sore heels two or three times a day.

Navel Infection.—I recently purchased a mare due to foal May 14, but since I bought her I have understood that her three colts all died before they were five days old. She carried all the colts 11 months. R. E. W., Luther, Mich.—The colts die from navel infection and you can perhaps save the next one by tying cord with a string dipped out of one part carbolic acid and 15 parts water. Also paint end of cord with tincture iodine, then apply one part iodoform and ten parts boracic acid to navel and surrounding parts twice a day.

Abscess in Throat.—Have a cow that had a bunch in throat which broke and discharged pus. How shall I treat it? M. W., St. Charles, Mich.—Inject peroxide hydrogen into abscess once a day; also inject one part tincture iodine and ten parts water into abscess once a day.

Ulcerated Womb.—For the past 18 months my cow has had bunches form on womb and break and discharge pus. J. A. L., New Haven, Mich.—Dissolve 1 dr. permanganate potash in a gallon of water and inject her, using not less than a quart at a time twice a day. Give her ½ oz. hypo-sulphite of soda at a dose night and morning.

Lampas—Indigestion.—I wish you would tell me whether or not lampas should be removed from a four-year-old mare? Have recently had her clipped, thinking she was lousy, and have fed her ground corn, oats and hay three times a day, but she remains thin. Old Subscriber, St. Clair, Mich.—Nature produces a filling of gums to protect incoming teeth, therefore, it is good practice to leave lampas alone. Give your mare ½ oz. Fowler's solution, 1 dr. fluid extract nux vomica and 2 drs. fluid extract cinchona at a dose in feed three times a day.

Mange.—I have a cow that seems to have scurvy on right side and the cow that stands next to her has it on left side. I applied sheep dip, also washed it with carbolic acid and water; neither of these remedies have made an impression. J. A., Farmington, Mich.—Give your cows ½ oz. of Donovan's solution at a dose to each of them in feed three times a day. Apply one part sulphur, ½ part carbonate potash and four parts fresh lard to mangy parts once a day.

Grange.

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

THE MAY PROGRAMS.

State Lecturer's Suggestions for First Meeting.

Song by Grange chorus.
The farmers' worst enemy, by a man and woman.
Recitation.
Humanitarian legislation in 1913.
Roll call responded to by each member naming a plant whose name begins with "C" and giving a brief account of it.
"Surprise feature."
Song, "The Grange Slogan."

Suggestions for Second Meeting.

A story, read or told.
Improved Methods of delivering milk, by a man and woman.
Character song.
Work of the Travelers' Aid Society and similar organizations for assisting strangers, a paper.
Ought we to use lime on our soils? If so, how much? Where get it? Answered by three men.
Humorous recitation.
Roll call responded to by each giving experience with an unpleasant piece of work.
Self-serve refreshments in charge of men named S—.

EXTENDING GRANGE USEFULNESS.

It helps much if we clinch in our minds the fact that an organization is only a larger individual! An association of folks has the same liability to weakness, discouragement, low aim and general shiftlessness, and the same possibilities of strength, courage, ambition and execution that any man in the group may have.

One of our lecturers caught this idea when she said: "I wonder if every Grange is on probation in a community for a time?" Most assuredly, yes! Just as when a new man moves into the neighborhood. At first all the neighbors are expectant, waiting to see what direction the new-comer will take. If he begins to "slick up" his new premises, if he shows a desire to make friends and to be interested in his neighbors, these neighbors look with favor and accept him. If, on the other hand, the new-comer presents a front in opposition to the established order of the locality, or holds aloof from it, he is not assimilated and the neighborhood moves on regardless of his existence. Just so an organization. Unless it shows itself not unfriendly and makes for itself a real, vital place in the community, it becomes an excrescence—"a cumber of the ground"—and is soon counted as "a backslider."

Whenever a master enters upon a year's work he receives this charge from the installing officer: "You may encounter difficulties. Overcome them, remembering they are but opportunities to test our abilities." One of the chief "difficulties" that any Grange is likely to encounter is that of successfully adapting itself to the changing needs of agricultural people in general, and particularly to those needs in its immediate vicinity. Fortunate is the Grange whose officers understand this fact and who ask themselves, "What ought this community expect of this Grange?"

This is a fair question. A man who has given much thought in this direction says: "Too many Granges do nothing for the community where they exist; they meet, talk, eat, buy binder twine and go home again. As far as being helpful to any good work in the community they fail. Henceforth we must lay greater stress on work for others."

Is it not true, as suggested above, that many a Grange is "on probation" when it comes to this test? Many a Grange, too, that now flatters itself that it has been a pretty-good-sort-of-a-Grange for years? Are not the tendencies of the times to carry information to all the people; to give representation to all classes and to all individuals of each class? True, we have not reached that happy state by any means but, if the Grange is not sidetracked on the switch of self-satisfaction, must it not exert itself actively in behalf of its neighborhood? And who make up "the neighborhood"? Not all its members are successful, not all are strong and independent; but scattered among the self-reliant and capable farmers are men and women who have been unfortunate or who have less ability or forehandedness than others. Should not a Grange seek to reach these also? Are there not enterprises which the stronger men and women of the neighborhood, already organized through the Grange, can set on foot which will ultimately help these unlucky or less capable members of the community? Are these not legitimate questions for a master to put to himself and for a Grange to ask itself?

At a later time we will discuss some of these Grange and neighborhood relationships at closer range and in more concrete instances. JENNIE BUELL.

GROWTH OF THE GRANGE, NATIONALLY, DURING PAST QUARTER.

National Secretary Freeman reports the number of Granges organized and reorganized during the quarter ending March 31, 1913, as follows:

Organized.	
California	1 Missouri
Colorado	3 Montana
Idaho	2 Nebraska
Illinois	1 New York
Indiana	4 Ohio
Iowa	1 Oregon
Kansas	6 Pennsylvania
Maine	2 South Dakota
Maryland	3 Washington
Massachusetts	6 Wisconsin
Michigan	8 Wyoming
Minnesota	8
Total	162

Re-organized.	
Colorado	1 Pennsylvania
Kansas	1 Washington
Massachusetts	1
Ohio	1
Total	10

AMONG THE LIVE GRANGES.

Brothers furnish Program and Dinner.—At the last meeting of Emma Grange, of Eaton county, the lecture hour was given over to the brothers and they furnished a splendid program, at the close of which the sisters were invited to the dining-room, where a spread fit for a king had been prepared by the men. Not only was the meal prepared by them, but the tables were set by the men and the decorations were such as to elicit much favorable comment from the ladies. About 100 were present to partake of the good things and they voted the men not only royal entertainers but good cooks.

A Four-act Comedy Drama, entitled "A Daughter of the Desert," was successfully presented by a dramatic company organized by the members of Keene Grange, of Ionia county, at Keene Grange hall on April 7. The local paper says of the performance: "Each character was well suited to the part, and brought out the play in true Arizona style. Sammy Hopkins, Clarence and Lucy, received continuous applause in their comedy parts. Silvere, the villain, and Ruth, the daughter of the desert, were very catchy in their acts, and the cowboys and Jim Parker were "true blue." The house was packed to the doors long before the curtain rose and, judging from the applause, everyone was well pleased. The play will be repeated at Keene Grange hall Thursday evening, April 17, and at Alto Grange hall Friday evening, April 18. The cast of characters included the following: Verle Pinkney, Corwin Cahoon, Frank Daniels, Clayton Cahoon, Allie Knee, Ernest Pinkney, Evelyn Brock, Jeanette Runyan, Mrs. Addie Daniels and Elma Winegar.

COMING EVENTS.

Eaton Co., with Prospect Grange, at Sunfield, Saturday, April 26.

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.

WHAT THE LOCAL CLUBS ARE DOING.

The Ray Farmers' Club, of St. Clair County.—This Club is 14 years old and has an average attendance of 60 to 75 members. Yearly programs are used. Ten meetings are held during the year, including an August picnic and a Club Fair as special features. Good exhibits are made at the latter and it has been a successful event in Club work.

The Green Oak Farmers' Club, of Livingston County.—This Club has been in existence 17 years. The Club owns its own chairs, dishes and silverware. The programs are prepared by a committee appointed by the president. The question box is a permanent feature in the meetings and creates animated discussions. A picnic is held in August, generally in connection with two other Clubs, viz., the Brighton and South Lyon Clubs. This is one of the older Clubs which remains enthusiastic in the work.

The North Marshall Club, of Calhoun County, holds monthly meetings. The program committee is appointed for a term of three months. It is the policy of the Club to encourage the children to take part in the meetings and the school question is one of the main topics of discussion.

CLUB HISTORIES.

The Texas Farmers' Club, of Kalamazoo County.

The Farmers' Association, of Texas Township, was organized April 8, 1907. Its object is to improve its members morally, socially, physically and financially; also to cause two blades of grass to grow where but one grew before.

A history of this association must of necessity be very brief, but inasmuch as brevity is said to be the soul of wit this article will at least have one merit. At an informal social held at the residence of Mrs. A. D. Jones, the subject of forming a Farmers' Club was talked over quite freely and it was finally decided to call a meeting for that purpose, this meeting to be held at the residence of Mr. J. T. Bright in Texas township. A goodly company assembled and, after a pleasant time spent in talking over different phases of farm life and with music and some recitations, the company proceeded to organize a Farmers' Club. This was done by electing A. L. Shaw president; J. M. Davidson, vice-president; Mrs. Mary Allen, treasurer; J. T. Bright, secretary. An executive committee of five was appointed: W. W. Allen, chairman, W. D. Gildea, Mrs. George Middleton, Mrs. A. D. Jones, and D. C. Thompson. A committee of three was appointed to draft a constitution and by-laws. This duty was given to Mr. and Mrs. A. L. Shaw and J. M. Davidson. At the first regular meeting this committee reported a constitution and set of by-laws that was accepted and adopted without change or amendment and was afterwards printed in pamphlet form.

Being placed on a sound basis the Club, under the able management of President Shaw, grew rapidly in membership and has become a potent factor in doing much good in this community. I think I may claim, without fear of successful contradiction, that directly and indirectly, the Club has been the means of putting thousands of dollars in the pockets of the fruit growers of southwestern Michigan.

Under the able management of the next president, William D. Gildea, the Club made giant strides and became established on a safe and firm basis, made possible in a large degree by the co-operation of the teachers of the various school districts and the good work done by scholars as exemplified in their educational day exercises. We also have been very fortunate in having the moral support and personal help of such people as Dr. Ernest Burnham, of the state normal school, Prof. H. Gaylord Slocum, Mrs. A. J. Mills and Mr. Jason Woodman, our government farm expert. That we appreciate their help goes without saying and much credit is due them for our success. We also have been very fortunate in never having had, to use a slang phrase, a "kicker" in the bunch, but all have boosted to the best of their ability for the welfare of the association. We are firmly of the opinion that we have been able to do much good and we can see no reason why, under the management of our present president, Mrs. Henry Walker, the future should not be bright and promising, as it certainly will be if hard work and hustling on her part can accomplish it. The membership fee is so small that it is no bar from joining the Club and when we stop to think of the great pleasure of our social meetings and of the great benefit of the exchange of ideas along the line of agriculture one can not help but wonder why every township in the state does not organize a Farmers' Club.

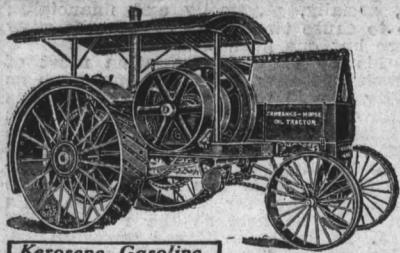
Kalamazoo Co. J. M. DAVIDSON.

CLUB DISCUSSIONS.

Good Meeting Despite Bad Weather.—The April meeting of the Washington Center Farmers' Club was held at "Lawn View" with Mr. and Mrs. John Pankhurst, April 11, with no postponement on account of the weather. In spite of the downpour of rain, which lasted from early morning until two p. m., the Club met as per schedule, and a most enjoyable time was the result. Our members who live at a distance made special effort to be present, coming from Alma and Ashley. The Club was delighted to welcome at this meeting our former members, Mr. and Mrs. W. H. Ackley, now of Clinton county, who made a long drive in order to meet once more with the Club. Roll call was responded to by giving a notable event of April. Little Bird Curren is always willing to recite, and this time delighted her audience as usual. The question box for general discussion occupied the most of the time during the afternoon. "Immigration, Liquor or Trusts, which is the greater menace to our National Prosperity?" This was led by O. J. Campbell, followed by Mr. Allen. Both declared liquor the greatest menace and proved their declaration by good arguments. A debate, "Resolved, that moral suasion does more to check the use of liquor than law." The affirmative was taken by Mrs. Z. C. Crowell, who made a good argument for moral suasion. The leader for the negative being absent, several volunteers took that side of the question. It was decided in the affirmative. The question box was well filled. After these were disposed of the Club adjourned to meet at "Highland Home," May 8, with Mr. and Mrs. F. L. Cook. Those who were not at Lawn View missed a good meeting.

Discuss Initiative, Referendum and Recall.—The Putnam and Hamburg Farmers' Club, of Livingston county, met at the home of Mr. and Mrs. S. E. Van Horn, Saturday March 22. The topic of the day, "The Initiative, Referendum and Recall," was brought up and ably discussed by Mr. A. Schoenhals, after which L. E. Howlett, of Howell, took up the subject and gave a very interesting and able talk on it. He pointed out many of the benefits but did not think it would be a remedy for all ills of our state.

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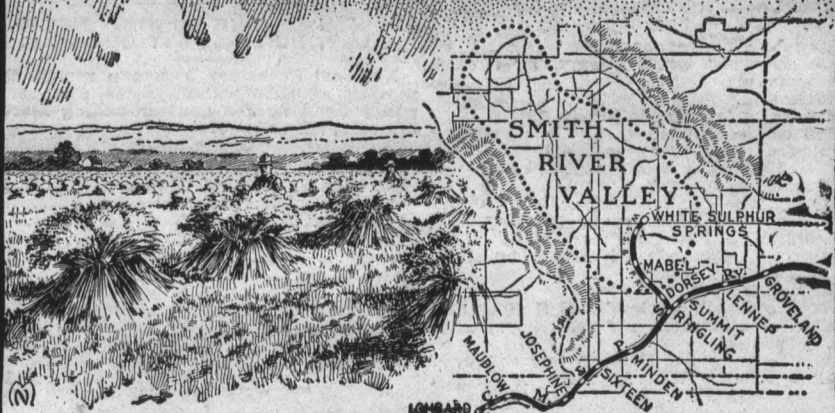
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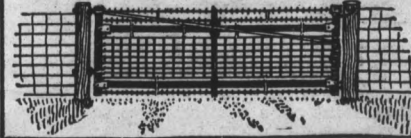
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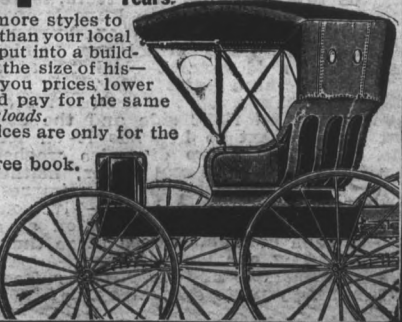
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