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FARM NOTES.

Preparing for the Corn Crop.

The selecting and testing of the seed before planting, so as to make sure of a good stand of corn under normal conditions has been talked and written about so much during recent years that it would seem that little remains to be said, and yet it is doubtless a fact that not 10 per cent of the farmers of the state or country make an ear test of their seed corn. This is an important item in the preparations for the corn crop which should not be neglected. The advantages of testing the seed corn in the manner so often described in these columns so that the ears from which the kernels are taken for the trial may be saved or rejected in accordance with their performance in the germinating box need not be further emphasized. They are apparent to every man who has given the subject any thought. But that the work of selecting seed corn may be profitably carried to the kernels after the ears have been selected and tested, is a new idea to many. This is a point which was emphasized by Mr. Davis, of Indiana, in his corn talks at the Round-Up Institute. He urged the careful hand picking of the seed, even where the corn grader is used to get uniform sized kernels, so as to get the kernels of such uniform size as to insure accurate dropping by the planter and to eliminate all poorly shaped or broken kernels.

As a means of determining how much there might be in this advice the writer shelled two average seed ears. These were in no sense show ears, but about an average as compared with the seed ears which are used on the average farm for planting the main corn crop. These ears were shelled without removing tip or butt kernels, since a great many farmers follow this practice in preparing their seed, simply shelling it in the corn sheller the same as they do for chicken feed. As a means of illustrating how much chicken feed there is in an average ear of corn shelled in this way, a sample was taken at random from the box into which the two ears were shelled and divided into two nearly equal lots. One lot was photographed as the sample run, and the other was picked over by hand in order to get the small or misshapen kernels out, thus leaving a sample of seed that would be dropped with a fair degree of accuracy by the corn planter, the two being photographed separately. The accompanying illustration will show the results. The number of kernels taken out was a surprise, and the experiment was repeated with other ears with very similar results.

This illustration should make it plain to the average farmer that he cannot afford to plant his seed without some effort toward eliminating these undesirable kernels and grading that left for size so that it will be dropped accurately by the planter. If the illustration does not, a few moments of experimenting with ears from his own seed corn supply will go far toward convincing him. Of course, a good deal can be accomplished by shelling off the tips and butts before shelling the seed, but even then there will be kernels in the seed that had far better not be planted. But the hand-picking of the seed will take very little time, and the results will certainly be profitable. It will cost very little to handpick the seed to plant an acre, and a few cents' worth of time so expended will be likely to yield a large return in the increased yield secured from the better stand of corn, which will not only be much more accurately distributed in the hills, but more uniform in the stalks growing in those hills, since the plants

A FEW LEADING ARTICLES OF THE WEEK.

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will all come from normally developed kernels which, if they have been properly tested for germination, will have about an equal degree of vitality, hence may be expected to develop less weak and barren stalks than is usual in the field, where the seed is selected and tested and planted in the too usual careless way. We believe that this is one of the early preparations for the corn crop to which it will pay to give some attention on the average farm.

Cutting Alfalfa the First Season.

Will you please state thru your paper whether or not alfalfa should be cut the first summer when sown in May or June. Shiawassee Co. W. J. AUSTIN.

This depends altogether on the growth which the alfalfa makes. We know of instances right here in Michigan where a good crop of hay was cut the same year the alfalfa was sown. In one case a field was sown late, in June and almost exactly two months from that date, a crop yielding two tons per acre was cut from it. This, of course, was an unex-

ceptionally fertile piece of soil which had been particularly well prepared for the crop and is a very exceptional case. Under ordinary methods of growing the crop it is probably better not to undertake to cut the hay from the field the first year. It will generally, however, be necessary to clip it back on account of weeds which will be likely to encroach upon it in the late summer. Generally speaking, it should, however, be cut provided a fairly vigorous growth is produced just about the time the plant begins to bloom, the owner using his judgment as to whether it should be removed from the land or allowed to remain as a mulch for the protection of the young plants. It is quite important that alfalfa be cut at just the right time, not alone on account of its higher feeding value, but as well to insure a good yield of future crops. At just about the time the plant begins to bloom, new buds are sent up from the crowns at the ground and the hay should be harvested before these

get up to where they would be clipped off with the mower. In fact when these buds begin to grow it is time to cut the crop for hay, which will be when the first blossoms begin to show in the field.

There is little question that the same policy followed out in the cutting of clover hay would prove beneficial in an equal degree. There is no doubt that the hay would be worth much more for feed and the second crop would be very much better, in fact, by cutting it early as here described, it has been demonstrated that the common June clover can be made to yield three fairly good crops of hay in a normal season right here in Michigan.

Growing Millet for Hay.

Will you kindly answer the following questions with regard to millet? Is the hay good as feed in winter? If so, how much seed should be sown to the acre and at what time should it be sown? Also at what stage of maturity should it be cut?

Montcalm Co.

OLD SUBSCRIBER.

Millet is a plant which requires warm weather for successful growth. It also prefers a warm soil, hence a rich, well drained sandy loam is best adapted to its production. It is a hard plant on the soil for the reason that it has a very shallow root system, consequently draws most of its plant food from near the surface of the soil. It should be sown on a well prepared seed bed the latter part of May or the first of June. When grown for hay about a bushel of seed per acre is sown of the common sort; for seed only about half this quantity is used. A great deal depends upon the stage of maturity at which the millet is cut, so far as the quality of the hay produced is concerned. It should be cut between the time it heads out and its late bloom. Cutting should never be delayed until the seed begins to ripen, owing to the possible injurious effects upon live stock, especially horses, to which it may be fed. Where hay containing millet seed is fed to horses continuously as the exclusive fodder ration, it sometimes has an injurious effect upon the kidneys, also producing swelling of the joints and other evidences of injury. For this reason, if millet is to be fed to horses, it should be cut comparatively green and carefully cured.

Cement Floors for the Granary.

Can you tell me if a cement floor for a granary floor would be all right? I am thinking of building a granary with 20-in walls above ground with cement, the same as sidewalks are made of.

Newaygo Co.

SUBSCRIBER.

The experience of different farmers seems to differ in regard to the use of cement floors in the granary. Where the floors are properly laid and allowed to get thoroly dry before using, there seems to have been no difficulty with them; but where used too soon or where the drainage below them is not sufficiently good, others have had trouble with the grain spoiling upon being stored in the granary thru the summer. The floor should be sufficiently high and given a proper foundation to secure thore drainage, giving the moisture from the soil no opportunity to penetrate the cement.

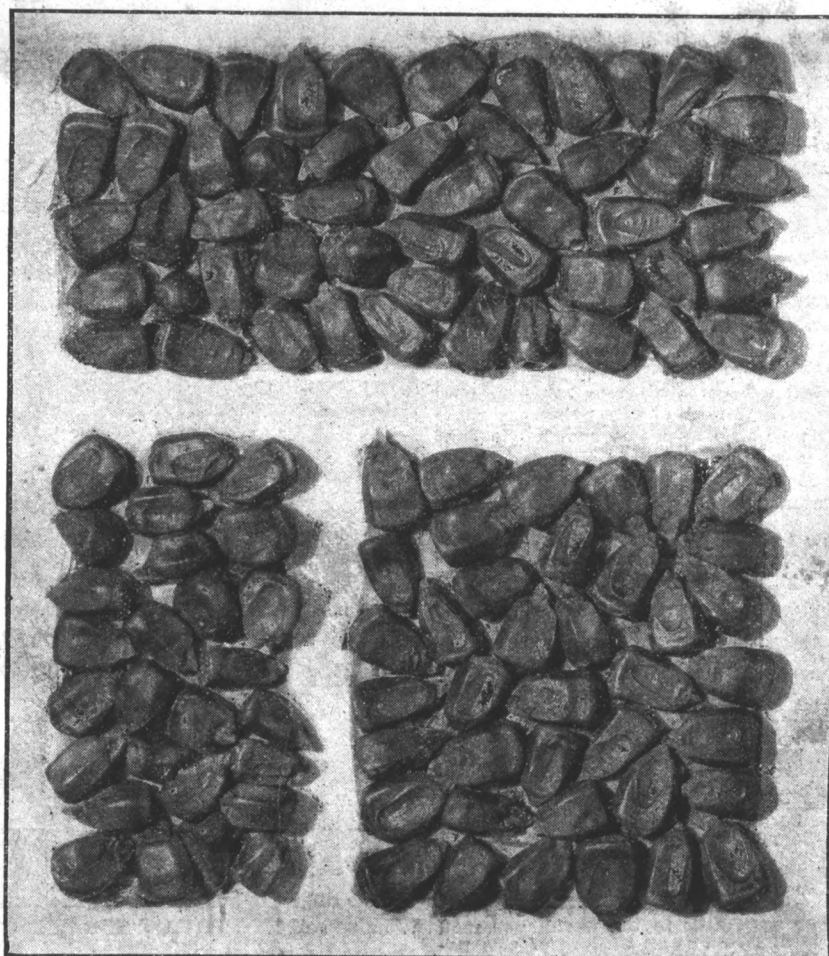
Beets in the Crop Rotation.

Two years ago I turned down a heavy sod which had been used for a pasture lot and secured a good crop of fodder corn. Last year I manured quite heavy and planted to stock beets. This winter I have been scattering bean-pods on it for my sheep, and the ground is covered with a mat of bean stalks and sheep manure. This is the only real convenient place I have for potatoes this year but am a little afraid potatoes and beets are too much the same nature to succeed each other.

Montcalm Co.

O. M. BLAIR.

This raises a point of no little interest in its relation to soil fertility. It is now contended by good authorities that certain crops, particularly root crops, leave



Sample of Seed Corn Shelled Without Removing Tip and Butt Kernels; Also Showing Result of Hand-picking a Portion of Sample.

a sort of toxic excreta in the soil, which is injurious to the crops which follow. This plant poison has been isolated and given a name by scientists who have conducted investigations along this line, and it is to its presence in the soil that the general failure in growing a good crop of corn after sugar beets is attributed. However, this poisonous effect is not noted in equal degree with all crops, hence the theory is not entirely borne out in agricultural practice. Whether potatoes will do well after sugar beets is a question which can only be determined by trying it upon any particular soil, since an effect which would be very apparent on one soil might not be noticeable on another. Generally speaking, it is not good practice to follow a crop with another with similar habits of growth in the crop rotation, but with good fertilization this is entirely possible and with good results. It has been demonstrated that with proper fertilization potatoes can be successfully grown for successive years on the same land, altho this is not generally practiced on account of the greater danger to be encountered from the fungous diseases which attack the crop. Of course, in a case like this where potatoes follow beets this danger would not be a factor to be considered. Personally the writer would not hesitate to try the experiment if no better solution of the problem offered, but would not expect as good a crop of potatoes as tho the crop came after grass in the crop rotation. However, the result will prove as interesting as it is problematical, and we would be glad to have a report from the inquirer touching the success of the crop if he decides to plant the potatoes after the beets.

Grading the Barnyard.

I am thinking of putting up a new barn along hillside, which in my judgment, makes it somewhat inconvenient, as the substance all, or nearly all, leaches out of the manure. The hill is not very steep, but just enough so that about all water runs off. What would you advise me to do, bank up around outside of yard so as to retain the water, somewhat kettle like. I hear farmers say a dry barnyard is far better than a wet one, as straw thrown in water will not rot soon.

Monroe Co.

SUBSCRIBER.

Without doubt a level yard is more desirable than one located on a hillside, especially if the soil is a comparatively dry one. Not long ago the writer saw a yard graded on a site which compares in every way with this description, which seemed to him to be ideal for the purpose. In excavating for the basement the dirt had been distributed over the area intended for the yard, bringing it to grade. This grade was about level with the barn site next to the foundation, but at the end of the yard opposite the barn was from three to four feet higher than the adjacent ground level. A tile drain had been laid about the outside of the yard, which discharged at the corner where the adjacent level was lowest, the eave troughs from the barn also discharging thru this tile on the lower side of the yard. Thus a comparatively dry yard was secured, from which the loss of plant food from leaching was reduced to the minimum. No water was allowed to run into this yard from the barn roof, and a liberal bedding of straw absorbed the water which fell into it in the form of rain.

With such an arrangement the manure dropped in the yard will be fairly well conserved, and by hauling that made in the stables direct to the field, the conservation of the manure made during the winter season is as perfect as it can well be without the use of a paved yard and cisterns for the liquid manure.

GO OUT OF THE CANADA THISTLE BUSINESS.

The excellent article in answer to P. V., of Macomb county, concerning the treatment of land infested with Canada thistles, suggests some thots to me that might be of some benefit to Michigan farmers.

We have a good many thistle patches scattered around thru the country, and those patches are spreading and becoming more numerous.

Our laws restraining thistles from going to seed are not strictly enforced.

Consequently if a man would keep his farm reasonably free from thistles he must practice that "eternal vigilance" that they tell us is the price of liberty—liberty from the thistle pest.

About five years ago I bot a forty across the road from my farm that was literally covered with thistles. After purchasing this land I summer followed it, using a wheel cultivator and a disc, go-

ing over it every two weeks all summer. I used a little tool called a "Dock Spud" for cleaning out the fence corners—digging out every thistle.

The next year I planted this ground to beans, giving thoro cultivation and using hoe and spud, and there have been no thistles on this land since.

On another forty joining this on the south which the owner sold to me, partly as he said, because the thistles were driving him out, I tried a little different plan. Tho the land was badly run down thru continuous cropping, I planted it to corn. I thot I'd better get rid of the thistles, even at the loss of some fertility, before I seeded it to clover.

This field got one more cultivation than usual for corn, and was gone over every two weeks with a hoe, and every thistle in the hills as well as out, was pulled up. Just before harvesting this corn which, by the way, was a very fair crop, a peck of clover seed was sown to the acre and cultivated in.

We got a splendid "catch" and the thistles did not "show up" that season.

A few thistles came up the last season in this field, whether from seed or some dormant roots, I am unable to say.

As the land is in pasture now, I shall dispose of these plants with the "spud" next season.

Brother farmers, let's not raise thistles. There is no need of it. Let us also see that our neighbors go out of the thistle business.

Mecosta Co.

A. VAN ALSTINE.

EVERGREEN CORN AS A FORAGE CROP.

In a recent issue of The Farmer I noticed an article on "Sweet Corn as an Ensilage Crop." Now, not having had any experience with a silo I am not prepared to take issue with the brother, but I have had a considerable experience with Late Evergreen sweet corn as a late forage crop. I cannot recommend it too highly for cows and hogs. If the average farmer only knew the great advantage of putting out a patch of sweet corn for fall feed they certainly would not think of getting along without it.

I have found that a late variety, preferably "Late Evergreen," is the most desirable as it reaches a feeding maturity at a time when the pastures are liable to be dried up, and besides, Late Evergreen gives a greater yield of corn and fodder than most other varieties. A person who has never tried it will be very much surprised to see what a yield they can obtain from a patch of two or three acres.

The first time that I tried it I put out about two acres in a field that I desired to plow up for wheat. I started to cut and feed it as soon as I had taken my oats out of the rest of the lot. My cows and pigs nearly lived on it and they could not consume it fast enough to clear the field in time for late seeding.

It will give splendid results planted in hills, drilled or sowed broadcast, but if a person desires it for very late feed I would recommend it be planted in hills or check rowed as it will give so much better yield of ears. It is not only very valuable as a green feed but is profitable to raise for winter fodder as the stock will eat it ever so much cleaner than they will ordinary field corn. I expect to put out a good sized field this season to cut late for winter feed as my hay crop is liable to be short and I know of nothing better, all things considered.

I do not know whether it would be a desirable crop to raise for the silo or not, but am satisfied from my own experience and that of my neighbors that no farmer who does not own a silo can miss it by putting out a liberal crop of Late Evergreen.

Clinton Co.

H. M. F.

How to Build Rural Telephone Lines.

A new booklet has just been received from the Western Electric Company, entitled, "How to Build Telephone Lines." Every farmer knows the value of a telephone, but most of them think it requires an expert to put up a system; and only a few know how easy it is to organize a company and build a line which will give good service at a moderate cost. This booklet tells you the "how" and "why" of telephone line construction. It is not made up of a series of glittering generalities, but instead gives definite information. It tells you how to construct a telephone line, how to install the instruments and connect them to the line, the material needed and the cost. In short, it tells you what you should know in a simple and interesting way. This book is handsomely illustrated and the Western Electric Company, who are the largest manufacturers of telephones and telephone apparatus in the world, will mail the book free to any readers of this paper who care to write for it. The address of the Western Electric Company can be found in their advertisement which appears in this issue.



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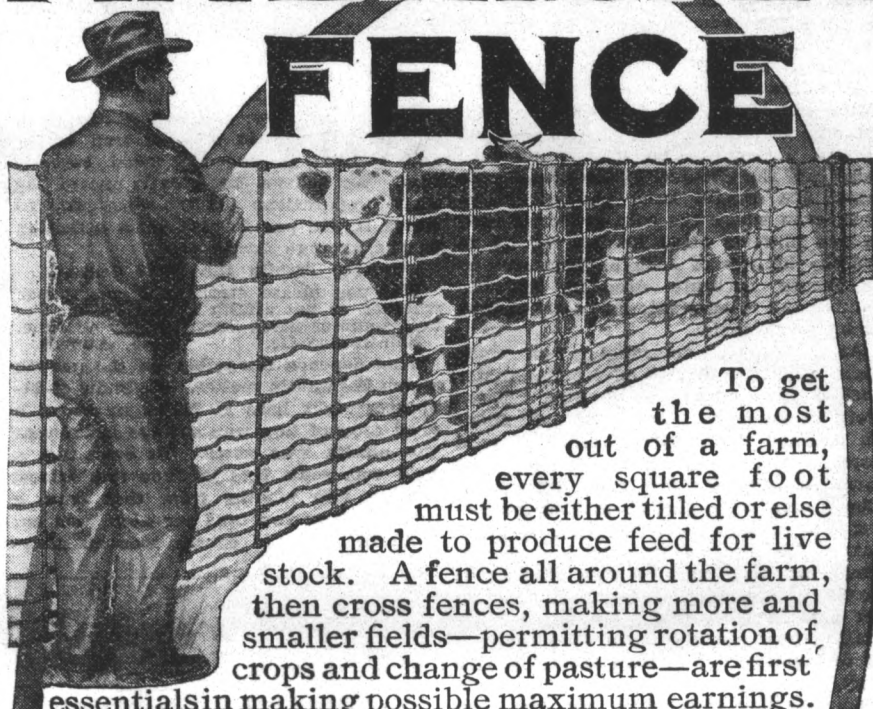
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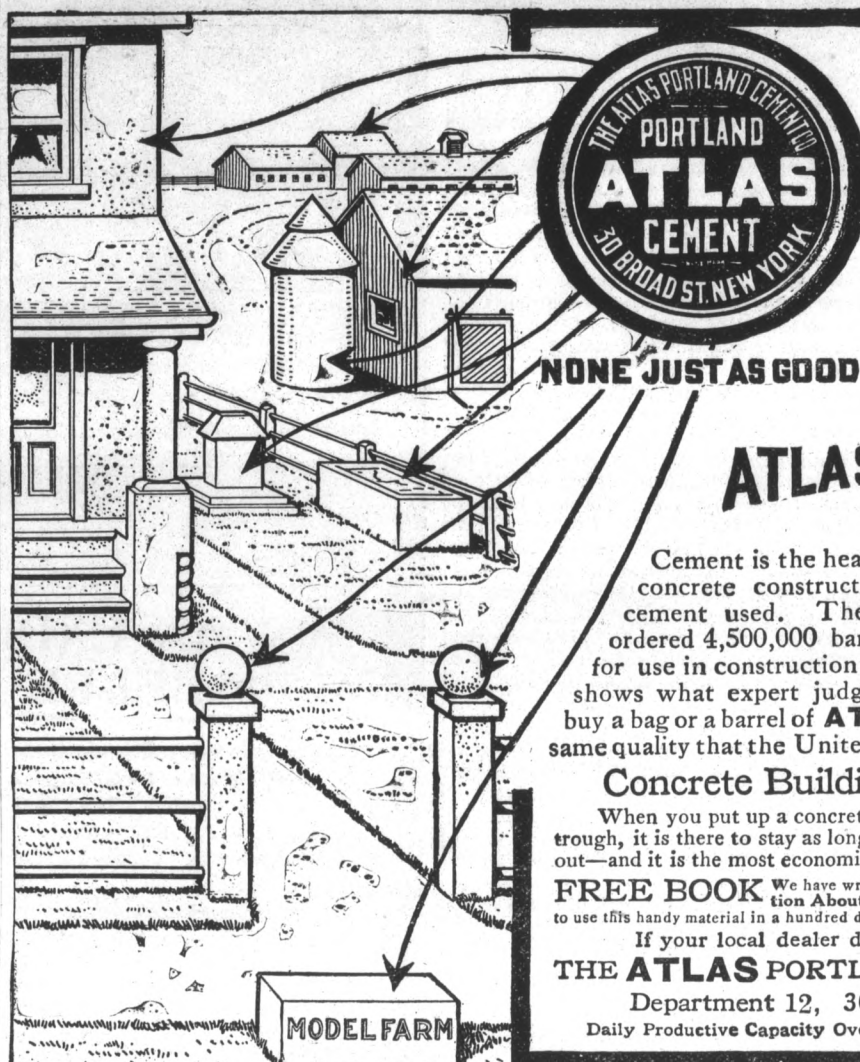
The Ear-to-Row Seed Corn Test.

We propose to put into practice on Lillie Farmstead this coming season, the ear-to-row test for seed corn and to follow it up for a sufficient number of years to note thoroly the results which can be accomplished. As every one knows great claims have been made for this system of testing seed corn. In fact, some people have gone so far as to claim that the yield of corn can be doubled if one will carefully carry out this system of selecting seed corn. The idea is that different ears of corn show marked individuality that cannot be detected in any other way only by planting them separately. We shall plant separate ears of corn in rows 40 rods long. A row 40 rods long will take the largest part of the corn on one single ear and this will be planted in a row by itself and we shall select about a dozen of the very best appearing ears that can be found in all of our seed corn that we have selected for this year. Then, of course, we will note results. If one ear grows better corn than another to any marked degree, then the seed will be selected from this row to carry on the experiment next year. That is, a dozen or so ears will be selected to carry on the seed plan and the rest of the corn in this row will be used for the main planting as far as it will go, and the next best row, etc., will be used for the balance. This will be compared with seed taken from the main field and kept separately. Of course, all of the seed corn will be tested carefully for its germinating power and only those ears will be taken for seed which show that they have strong vitality to begin with. We are hopeful that this system will prove all that its most ardent partisans claim for it, but I want to carry on the experiment myself and take no facts second handed.

Caps for Curing Clover Hay.

To properly cure the first cutting of alfalfa and, in fact, to properly cure the first cutting of clover hay if it is cut as green as it ought to be, it is very risky unless one has caps for covering the cocks. Where the hay is cut as green as it should be in order to get best results and make proper provision for the second cutting, it is almost impossible to cure it without cocking it, because it has to lay in the swath or wind-row so long that much of it would blister in the sun, and then it would be so long that one could hardly expect at that time of the year to have it cured without having a rain. And we all know that where clover is partially cured and then wet by a good shower of rain that it is well nigh ruined. The loss incurred is in proportion to the extent to which the clover is dried before the rain comes. If the clover is nearly dry enough to go into the barn and a good shower of rain comes, it practically makes the clover worthless. A little rain just as the clover is commencing to cure does not hurt so much, but as it nears the drying stage rain is much more injurious. If you leave the hay and do not cut it until it is well nigh matured, then it can be hauled in, but this does not make as good hay and this will not assure a good second crop. I am of the opinion that if common red clover hay is cut early enough for the first cutting that it will be much more palatable and digestible and contain a larger per cent of protein, consequently be more valuable, and at the same time when it is cut at this time you are practically assured of a second cutting that will approximate it in yield, and we are all aware that this is true of alfalfa. Consequently if we go into the hay field this year with the idea of handling our crop in this way, it will be necessary to have some hay caps. These hay caps can be made out of common cotton cloth by tearing it into squares and tying weights on the corners. This is what we propose to do. I am not sure yet how many we will get but I shall certainly try the experiment.

These hay caps can be used in the oat field and wheat field to good advantage, especially on a portion of the field which is to be used for seed. I am of the opinion that if an acre or two of oats and the same amount of wheat could be shocked up in good round shocks and then covered with a good hay cap so that it would be absolutely protected against rain, and then the seed for the next crop taken from this portion of the field that was covered, that we would have a great deal better quality of seed and it would have more vitality. It might not make so much difference in some years that are exceptionally good for the curing of



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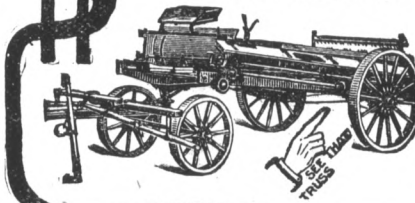
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A railway will shortly be built to Hudson Bay, bringing the world's markets a thousand miles nearer these wheat fields, where schools and churches are convenient, climate excellent, railways close to all settlements and local markets good.

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Correspondence of an Illinois Editor, who visited Western Canada in August, 1908.

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THE MICHIGAN FARMER,
Detroit, Mich.

a sort of toxic excreta in the soil, which is injurious to the crops which follow. This plant poison has been isolated and given a name by scientists who have conducted investigations along this line, and it is to its presence in the soil that the general failure in growing a good crop of corn after sugar beets is attributed. However, this poisonous effect is not noted in equal degree with all crops, hence the theory is not entirely borne out in agricultural practice. Whether potatoes will do well after sugar beets is a question which can only be determined by trying it upon any particular soil, since an effect which would be very apparent on one soil might not be noticeable on another. Generally speaking, it is not good practice to follow a crop with another with similar habits of growth in the crop rotation, but with good fertilization this is entirely possible and with good results. It has been demonstrated that with proper fertilization potatoes can be successfully grown for successive years on the same land, altho this is not generally practiced on account of the greater danger to be encountered from the fungous diseases which attack the crop. Of course, in a case like this where potatoes follow beets this danger would not be a factor to be considered. Personally the writer would not hesitate to try the experiment if no better solution of the problem offered, but would not expect as good a crop of potatoes as tho the crop came after grass in the crop rotation. However, the result will prove as interesting as it is problematical, and we would be glad to have a report from the inquirer touching the success of the crop if he decides to plant the potatoes after the beets.

Grading the Barnyard.

I am thinking of putting up a new barn along hillside, which in my judgment, makes it somewhat inconvenient, as the substance all, or nearly all, leaches out of the manure. The hill is not very steep, but just enough so that about all water runs off. What would you advise me to do, bank up around outside of yard so as to retain the water, somewhat kettle like. I hear farmers say a dry barnyard is far better than a wet one, as straw thrown in water will not rot soon.

Monroe Co.

SUBSCRIBER.

Without doubt a level yard is more desirable than one located on a hillside, especially if the soil is a comparatively dry one. Not long ago the writer saw a yard graded on a site which compares in every way with this description, which seemed to him to be ideal for the purpose. In excavating for the basement the dirt had been distributed over the area intended for the yard, bringing it to grade. This grade was about level with the barn site next to the foundation, but at the end of the yard opposite the barn was from three to four feet higher than the adjacent ground level. A tile drain had been laid about the outside of the yard, which discharged at the corner where the adjacent level was lowest, the eave troughs from the barn also discharging thru this tile on the lower side of the yard. Thus a comparatively dry yard was secured, from which the loss of plant food from leaching was reduced to the minimum. No water was allowed to run into this yard from the barn roof, and a liberal bedding of straw absorbed the water which fell into it in the form of rain.

With such an arrangement the manure dropped in the yard will be fairly well conserved, and by hauling that made in the stables direct to the field, the conservation of the manure made during the winter season is as perfect as it can well be without the use of a paved yard and cisterns for the liquid manure.

GO OUT OF THE CANADA THISTLE BUSINESS.

The excellent article in answer to P. V., of Macomb county, concerning the treatment of land infested with Canada thistles, suggests some thots to me that might be of some benefit to Michigan farmers.

We have a good many thistle patches scattered around thru the country, and those patches are spreading and becoming more numerous.

Our laws restraining thistles from going to seed are not strictly enforced.

Consequently if a man would keep his farm reasonably free from thistles he must practice that "eternal vigilance" that they tell us is the price of liberty—liberty from the thistle pest.

About five years ago I bot a forty across the road from my farm that was literally covered with thistles. After purchasing this land I summer fallowed it, using a wheel cultivator and a disc, go-

ing over it every two weeks all summer. I used a little tool called a "Dock Spud" for cleaning out the fence corners—digging out every thistle.

The next year I planted this ground to beans, giving thoro cultivation and using hoe and spud, and there have been no thistles on this land since.

On another forty joining this on the south which the owner sold to me, partly as he said, because the thistles were driving him out, I tried a little different plan. Tho the land was badly run down thru continuous cropping, I planted it to corn. I thot I'd better get rid of the thistles, even at the loss of some fertility, before I seeded it to clover.

This field got one more cultivation than usual for corn, and was gone over every two weeks with a hoe, and every thistle in the hills as well as out, was pulled up. Just before harvesting this corn which, by the way, was a very fair crop, a peck of clover seed was sown to the acre and cultivated in.

We got a splendid "catch" and the thistles did not "show up" that season.

A few thistles came up the last season in this field, whether from seed or some dormant roots, I am unable to say.

As the land is in pasture now, I shall dispose of these plants with the "spud" next season.

Brother farmers, let's not raise thistles. There is no need of it. Let us also see that our neighbors go out of the thistle business.

Mecosta Co.

A. VAN ALSTINE.

EVERGREEN CORN AS A FORAGE CROP.

In a recent issue of The Farmer I noticed an article on "Sweet Corn as an Ensilage Crop." Now, not having had any experience with a silo I am not prepared to take issue with the brother, but I have had a considerable experience with Late Evergreen sweet corn as a late forage crop. I cannot recommend it too highly for cows and hogs. If the average farmer only knew the great advantage of putting out a patch of sweet corn for fall feed they certainly would not think of getting along without it.

I have found that a late variety, preferably "Late Evergreen," is the most desirable as it reaches a feeding maturity at a time when the pastures are liable to be dried up, and besides, Late Evergreen gives a greater yield of corn and fodder than most other varieties. A person who has never tried it will be very much surprised to see what a yield they can obtain from a patch of two or three acres.

The first time that I tried it I put out about two acres in a field that I desired to plow up for wheat. I started to cut and feed it as soon as I had taken my oats out of the rest of the lot. My cows and pigs nearly lived on it and they could not consume it fast enough to clear the field in time for late seeding.

It will give splendid results planted in hills, drilled or sowed broadcast, but if a person desires it for very late feed I would recommend it be planted in hills or check rowed as it will give so much better yield of ears. It is not only very valuable as a green feed but is profitable to raise for winter fodder as the stock will eat it ever so much cleaner than they will ordinary field corn. I expect to put out a good sized field this season to cut late for winter feed as my hay crop is liable to be short and I know of nothing better, all things considered.

I do not know whether it would be a desirable crop to raise for the silo or not, but am satisfied from my own experience and that of my neighbors that no farmer who does not own a silo can miss it by putting out a liberal crop of Late Evergreen.

Clinton Co.

H. M. F.

How to Build Rural Telephone Lines.

A new booklet has just been received from the Western Electric Company, entitled, "How to Build Telephone Lines." Every farmer knows the value of a telephone, but most of them think it requires an expert to put up a system; and only a few know how easy it is to organize a company and build a line which will give good service at a moderate cost. This booklet tells you the "how" and "why" of telephone line construction. It is not made up of a series of glittering generalities, but instead gives definite information. It tells you how to construct a telephone line, how to install the instruments and connect them to the line, the material needed and the cost. In short, it tells you what you should know in a simple and interesting way. This book is handsomely illustrated and the Western Electric Company, who are the largest manufacturers of telephones and telephone apparatus in the world, will mail the book free to any readers of this paper who care to write for it. The address of the Western Electric Company can be found in their advertisement which appears in this issue.



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antee, and any man who desires the best roofing for his money, and wants the same backed by a reputable house as well as by a Surety Bond, can do no better than invest in Congo.

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AMERICAN FENCE



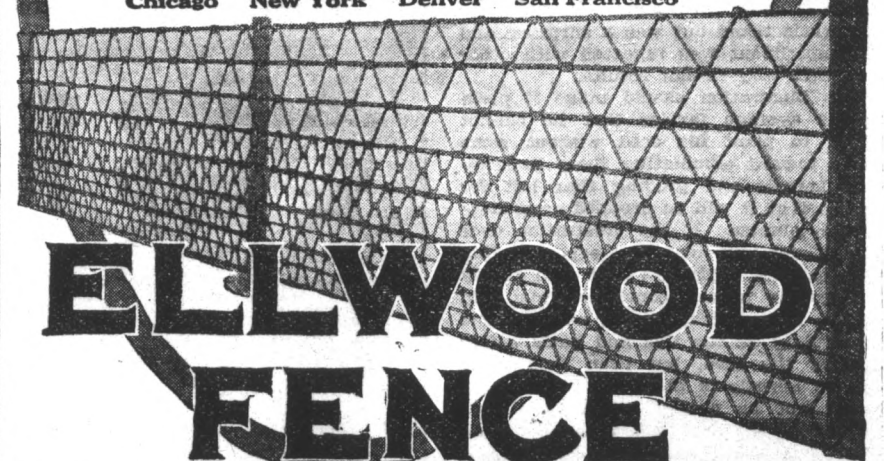
To get the most out of a farm, every square foot must be either tilled or else made to produce feed for live stock. A fence all around the farm, then cross fences, making more and smaller fields—permitting rotation of crops and change of pasture—are first essentials in making possible maximum earnings.

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THE BUFFALO FERTILIZER CO., Sta. A, BUFFALO, N. Y.

LILLIE FARMSTEAD NOTES.

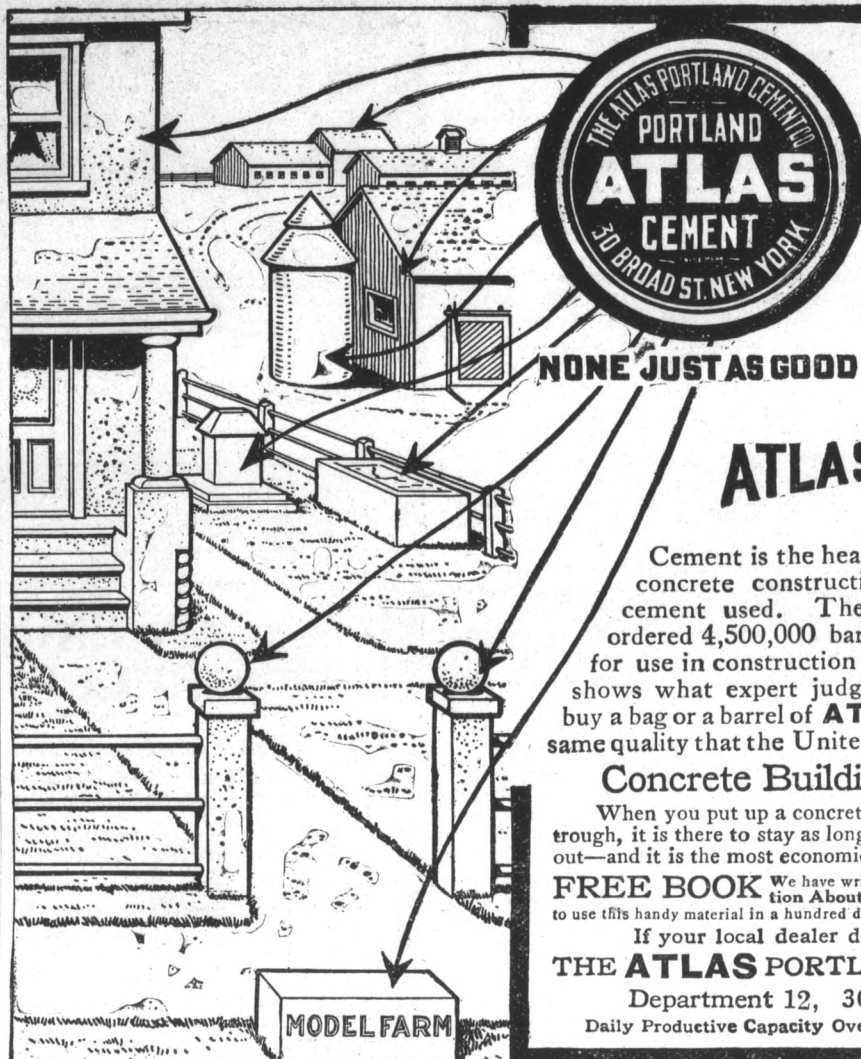
The Ear-to-Row Seed Corn Test.

We propose to put into practice on Lillie Farmstead this coming season, the ear-to-row test for seed corn and to follow it up for a sufficient number of years to note thoroly the results which can be accomplished. As every one knows great claims have been made for this system of testing seed corn. In fact, some people have gone so far as to claim that the yield of corn can be doubled if one will carefully carry out this system of selecting seed corn. The idea is that different ears of corn show marked individuality that cannot be detected in any other way only by planting them separately. We shall plant separate ears of corn in rows 40 rods long. A row 40 rods long will take the largest part of the corn on one single ear and this will be planted in a row by itself and we shall select about a dozen of the very best appearing ears that can be found in all of our seed corn that we have selected for this year. Then, of course, we will note results. If one ear grows better corn than another to any marked degree, then the seed will be selected from this row to carry on the experiment next year. That is, a dozen or so ears will be selected to carry on the seed plan and the rest of the corn in this row will be used for the main planting as far as it will go, and the next best row, etc., will be used for the balance. This will be compared with seed taken from the main field and kept separately. Of course, all of the seed corn will be tested carefully for its germinating power and only those ears will be taken for seed which show that they have strong vitality to begin with. We are hopeful that this system will prove all that its most ardent partisans claim for it, but I want to carry on the experiment myself and take no facts second handed.

Caps for Curing Clover Hay.

To properly cure the first cutting of alfalfa and, in fact, to properly cure the first cutting of clover hay if it is cut as green as it ought to be, it is very risky unless one has caps for covering the cocks. Where the hay is cut as green as it should be in order to get best results and make proper provision for the second cutting, it is almost impossible to cure it without cocking it, because it has to lay in the swath or windrow so long that much of it would blister in the sun, and then it would be so long that one could hardly expect at that time of the year to have it cured without having a rain. And we all know that where clover is partially cured and then wet by a good shower of rain that it is well nigh ruined. The loss incurred is in proportion to the extent to which the clover is dried before the rain comes. If the clover is nearly dry enough to go into the barn and a good shower of rain comes, it practically makes the clover worthless. A little rain just as the clover is commencing to cure does not hurt so much, but as it nears the drying stage rain is much more injurious. If you leave the hay and do not cut it until it is well nigh matured, then it can be hauled in, but this does not make as good hay and this will not assure a good second crop. I am of the opinion that if common red clover hay is cut early enough for the first cutting that it will be much more palatable and digestible and contain a larger per cent of protein, consequently be more valuable, and at the same time when it is cut at this time you are practically assured of a second cutting that will approximate it in yield, and we are all aware that this is true of alfalfa. Consequently if we go into the hay field this year with the idea of handling our crop in this way, it will be necessary to have some hay caps. These hay caps can be made out of common cotton cloth by tearing it into squares and tying weights on the corners. This is what we propose to do. I am not sure yet how many we will get but I shall certainly try the experiment.

These hay caps can be used in the oat field and wheat field to good advantage, especially on a portion of the field which is to be used for seed. I am of the opinion that if an acre or two of oats and the same amount of wheat could be shocked up in good round shocks and then covered with a good hay cap so that it would be absolutely protected against rain, and then the seed for the next crop taken from this portion of the field that was covered, that we would have a great deal better quality of seed and it would have more vitality. It might not make so much difference in some years that are exceptionally good for the curing of



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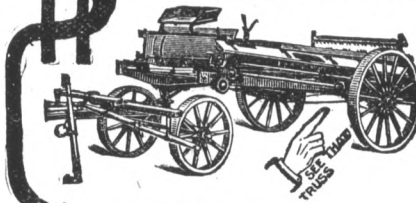
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You can't afford to overlook the **LOUDEN** Hay Carrier—that is if you want a carrier that will never break down; that you do not send away for repairs every now and then. Years of hard usage by thousands of farmers have proven this to such an extent that they will not buy any hay tools, forks, slings, tracks without the name **LOUDEN** on them. Never any bind-

ing on the track; the simplest lock that works perfectly every time; patented swivel takes kinks out of rope. Why not buy a **LOUDEN** carrier that will be good for life. We are hay tool specialists—**Free catalogue of LOUDEN** Litter Carriers, Flexible Barn Door Hangers and other labor saving hardware specialties will show you why. **Free Booklet, "Fitting up Barns."**

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320 Acres Instead of 160 Acres



As further inducement to settlement of the Wheat-Growing lands of Western Canada, the Canadian Government has increased the area that may be taken by a homesteader to 320 acres—160 free and 160 to be purchased at only \$8.00 per acre. These lands are in the grain-raising area, where mixed farming is also carried on with unequalled success.

A railway will shortly be built to Hudson Bay, bringing the world's markets a thousand miles nearer these wheat fields, where schools and churches are convenient, climate excellent, railways close to all settlements and local markets good.

"It would take time to assimilate the revelations that a visit to the great empire lying to the North of us unfolded at every turn." Correspondence of an Illinois Editor, who visited Western Canada in August, 1908.

Lands may also be purchased from Railway and Land Companies at low prices and on easy terms. For pamphlets, maps and information as to low Railway Rates, apply to Sup't of Immigration, Ottawa, Can., or to the authorized Canadian Government Agent.

M. V. McInnes, 6 Ave. Theatre Block, Detroit, Mich.; C. A. Laurier, Marquette, Mich.

Three Daily Papers

For those who would like to have three daily papers a week, we have arranged with the New York Thrice-a-Week World so that we can offer it with the Michigan Farmer a year for only \$1.40; that is, both papers a year each for that price. Send orders to us or thru our agents.

THE MICHIGAN FARMER,
Detroit, Mich.

these crops, but it stands to reason when wheat and oats that stand in the shock and get soaked with rain as they do some years, that this seed has not as strong vitality as it would have had it never received any rain. I am of the opinion that many a poor crop of wheat and oats is due to the fact that the seed was not properly cured when it was harvested. If the temperature is just right and a good prolonged rain comes and soaks the heads, the kernels swell and become soft and it may be that the embryo starts just a little bit. If it does, the vitality of this seed is injured and the crop that is grown from such seed the next year will not have as strong vitality as tho it had been grown from seed that had been thoroly protected from inclement weather. The more I think about the proposition, the more I believe that a small investment in good cotton cloth for clover caps would be a paying one and the investment need not be large. The bother of getting them and tying the weights on to the corners in the first place and the bother of taking care of them when thru using them would be more than the actual investment, which would not amount to a great many dollars for a considerable number of them.

COLON C. LILLIE.

ADDITIONAL POINTERS ON ARTICHOKES.

I have read Mr. Draper's article on artichokes, and would like to have him explain how the hogs could root the tubers out of the frozen ground in the winter. Also would like to know what he does with the mulch applied each year.

SUBSCRIBER.

Referring to the question, "How can hogs root out artichokes during the winter while the ground is frozen solid," will say that I have owned almost all kinds of hogs, including the old Michigan elm peelers of forty years ago, and yet I have never come across a breed of hogs that could root up hard frozen ground, so I must answer the question by saying, "I don't know," but if your subscriber will read the article on artichokes a little more closely, he will see that they do not have to dig up frozen earth to get the artichokes, as they are mulched heavily with straw. This mulching is for a two-fold purpose—it holds the moisture in the fall and keeps down the fall weeds, and is a good covering for the artichokes to grow under. Then, late in the fall, when the frost has killed the stalks, they receive another coat of mulch from the decaying tops. This mulch will withstand any freeze that we have in this latitude.

When the hogs are turned in, which should not be until after snow falls, and this mulch is rooted up and mixed with the dirt, it will freeze to a greater or less extent, but by the time the hogs get once over the field and have gotten the artichokes out that were nearest the surface, they can finish the rest after the frost is out of the ground in the spring.

As to what is done with the mulching each year—the hogs will see to it that the mulching is thoroly incorporated into the soil, so that there will be no trouble in that respect. At least, that has been my experience.

Van Buren Co.

J. S. DRAPER.

WHAT SHALL WE DO WITH IT?

We, in common with many others have have the osage hedge problem to contend with. The problem has been met in all ways from letting the hedge strictly alone thru various stages of trimming and pruning, to cutting to the ground or grubbing and pulling it out. If the hedge is to be gotten rid of the last course is the only feasible one. Cutting above the ground is useless except to get the hedge down where it can be kept under control. I have seen this method tried in all ways so many times that I know such a course is useless from the standpoint of getting rid of the hedge. About the only way is to grub it out and work the ground so sprouts will not start. The best way where it can be done, is to use a traction engine for the power and in this way the hedge can be pulled with little grubbing.

Of course, an osage hedge makes a good fence and adds to the looks of the place if kept trimmed as it should be, but this requires so much work that it becomes irksome and finally is neglected by most farmers.

Still another course open to the owner is to trim the hedges up rather than down, and attempt to get the largest and straightest trunks large enough for fence posts and stakes. This is what we are

attempting to do with ours. While I have not seen it tried in this vicinity it has been done in the west, and it is claimed that the posts will last better than cedar.

Our hedge was on the place when father purchased it, being along a part of one line. The railroad then came thru so as to leave it a line fence between us and them. Father then had the hedge cut down and the railroad put a board fence just at their side of the stubs. Of course, they sprouted up rankly on both sides of the fence. We tried to keep the sprouts cut for a few years but they seemed to get thicker and thrive with the treatment, and control was given up. This was about fifteen years ago and the hedge has now grown up about the fence until the main trunks are as large as ones arm. We have been thinking that we might be able to get some posts out of this in time and have been trimming it up with this in view, leaving the largest and straightest trunks standing at an average distance of about two feet apart and cutting off all branches up as high as we can reach with the ax.

This is something of an experiment with us and if any farmer readers have had experience with old hedges and this treatment of them we should be glad to hear from them. This is a live topic for those who have overgrown hedges, and if the treatment is practical the pesky things may be made a source of income instead of being, so to speak, a thorn in the flesh.

We have also observed that this hedge is afflicted with the San Jose scale to such an extent that there is much dead wood in parts of it. If it would kill the hedge the pest would be welcomed by many.

Calhoun Co.

S. B. H.

ROADSIDE IMPROVEMENT.

I have read with much interest the articles in The Farmer on this subject, but I cannot agree with the writer who advocates leaving clumps of brush along the roadside. Indeed, I think there are too many who follow that advice. It seems to me that improvement in this case means cleaning up. When riding thru the country, it is a pleasure to be able to see over the farms as we pass them; to observe the different methods of cultivation, to see the farmers at their work, all of which I have been unable to do when riding by farms where the highway is bordered with trees of all sizes, and brush. Roadsides should be cleared of bushes and plowed to kill the roots, when they can be planted to some crop, and then seeded. Where the land is reasonably level, a good crop of hay may be cut every year. True, there are some places where the grass is green, and a few forest trees "lend enchantment to the view." Such spots are "few and far between." In traveling thru the country last summer I noticed a fine crop of wild parsnips going to seed along the highway on both sides for miles. I wondered whose business it was to see that foul weeds were not allowed to go to seed along the highway. Many places one will find burdock and Canada thistles seeded, ready to scatter their foul seeds on neighboring farms. A man, looking for a farm would never be attracted to a place bordered with a highway that was unadorned with a lot of bushes of all kinds. I have in mind now, one in which I counted 29 species of weeds and bushes, making a very unsightly aspect.

Shiawassee Co.

B. S. F.

Have You Read "Guns and Gunning?"

Perhaps you have never realized what a rare good time you or your boy can have, right there on your own farm—or within a few miles of it. This book tells the things every man and boy wants to know about hunting and shooting—about the selection of the gun—its handling—its care. The particular reason why every boy should have this book is that it teaches carefulness in the handling of firearms. This is a mighty important chapter—for every boy is bound to handle a gun every chance he gets—so, for his own safety, every boy should know how to shoot. Then, this book is full of interesting facts about game-birds and small game of all kinds—about their habits—where to find them—how to get within range of them, etc. Also chapters about wood-craft, camping, camp-outs, cooking—in short, the whole field of hunting and shooting is covered. This book, handsomely illustrated, is published by the J. Stevens Arms & Tool Co., Chicopee Falls, Mass. No one should be without it, for the book is only 30 cents, bound in cloth and stamped in gilt. Or in paper, with a cover scene in three colors, it is only 20 cents post-paid.

"Potatoes."—Inquiries have come to hand for this variety of potatoes. Anyone having them would do well to advertise them in the Michigan Farmer.



AN EXPERIENCE AT THE BELLE MEADE FARM

THE Belle Meade Farm, of Bedford, Mass., is well known for its thoroughgoing and scientific methods, and is a model in many respects. Its big stables are all covered with Amatite Roofing. The owners write us as follows:

"It is now nearly three years since we put your Amatite Roofing on our new 300 ft. buildings. This Roofing is now in its third winter and has gone through without a leak, and there is every indication that it will be good for many years. The buildings with this light, sparkling Roofing and the red trimmings as painted, are very attractive in appearance, and altogether we are much pleased with your Amatite Roofing. We are contemplating the construction of some further buildings for our Shetland Ponies, and mean to use more of your roofing."

If the Belle Meade farm people had chosen a "smooth surfaced" roofing it would have cost them more in the beginning and the difference would have become greater every year. Those roofs were laid in 1905. In 1907 they

would have required a thorough painting, which would have to be repeated in 1909, and every two years thereafter.

The Amatite, however, has had no painting, and needs none. The mineral surface takes care of that. When the roof finally wears out and the owners of the Belle Meade Farm compute the cost of their Amatite Roofing they will put down "for the Amatite, so many dollars," "for care of same, nothing." If they had used a painted roofing there would probably be several coats of paint to figure on, besides the original cost of the roofing, and the total would be several times as much as Amatite.

It does not matter whether your roofs be large or small, it is wasteful to use anything but Amatite.

Let us send you a free sample, together with a booklet telling more about Amatite. It will save you money later.

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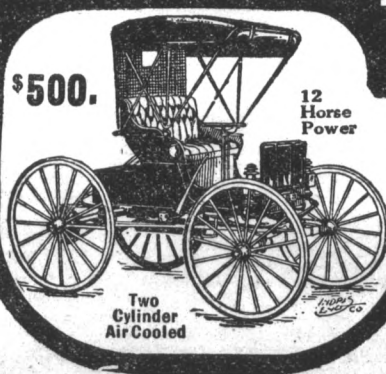
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LIVE STOCK

FEEDERS' PROBLEMS.

Raising the Calf.

Upon every farm there are from one to a dozen or more calves to be raised every year, according to the size of the farm. In most cases these calves run in a poor pasture, oftentimes the hog lot because it is near the house, and receive no feed other than a little sour skim-milk thruout the summer, while they are compelled to lie out exposed to the heat and the flies, as well as the storms. The result is, the very ordinary calf that is to be found in a large majority of yards each fall and winter—a calf that will make a \$15 yearling, instead of being worth that price or more in the fall as a feeder. This way of rearing calves is just as big a mistake as is the same method applied to any other stock, but the calf is the worst example of the kind that could be cited. If a small lot near the house or barn is available to provide good pasture, and a shed is convenient to shelter the calves from the sun and flies as well as the severe storms, and a little grain is fed with the milk at first, or separately after the calves get a little age, the owner of the calves will be surprised at the growth which the calves will make and the thrift which they will show the following winter. The time to develop any young animal is right from the start, and the calf is no exception to the rule. There is no better opportunity for a paying investment on the average farm than is to be found in better feed and care for the young calves. Try it, and be convinced from experience, and a comparison in the fall with the calves which you have grown in previous years.

GETTING READY FOR THE SPRING LITTER.

With the approach of farrowing time it is very essential that everything be in readiness for that important period. The first thing that should be looked after is the sow. It is very necessary that the sow receive proper feed and care before farrowing if we expect to succeed in the hog raising business.

It should be borne in mind that before farrowing the sow is doing double duty for she is not only keeping up her own bodily functions but is supplying the unborn litter with nourishment. Her feed, therefore, should consist of grains rich in protein and should never be allowed to become excessive in carbohydrates which is sure to be the case when nothing but corn is fed. Altho feeding at this time will not need to be as heavy as after farrowing it should be quite liberal. No doubt there are more feeders that feed too sparingly at this time than there are that feed too liberally. While the sow should not be allowed to become too fat it is not reasonable to expect her to give birth to a large litter of strong, thrifty pigs after having gone thru a couple of months' fasting.

It is very important that the sows receive plenty of exercise each day and this can be accomplished by having the feeding pen quite a distance from the sleeping quarters or by feeding grain in litter spread on the feeding floor so that they will have to exercise in order to get their feed.

The feed at this time is very important and should consist chiefly of nitrogenous feed such as bran, oil meal, beans, peas, oats, etc., and it is well to feed some roots or if these are not available a feed of nice bright clover hay fed once a day will answer nearly as well and will be greatly relished by the sow.

As farrowing time approaches the bowels should be watched closely, being very careful not to allow them to become congested. About two weeks before farrowing the sow should be shut in the farrowing pen so that she will get accustomed to her quarters and it is also well for the attendant to handle the sow as much as possible before farrowing so that she will not be disturbed in case she needs assistance at this time.

The farrowing pen should be provided with fenders on at least three sides. These can be made of plank eight or ten inches wide, nailed securely six or eight inches from the floor. These fenders will save many of the pigs from being crushed for when the sow lies down they can crawl under these fenders and will not be injured.

Very little bedding should be used until

the pigs are several days old as they are liable to bury themselves in the straw and get crushed when the sow lies down.

The sow should be carefully watched the first forty-eight hours for it is during this period that the most pigs are lost by being crushed by the sow. It does no good if we have prolific sows if they are carelessly handled and raise only a small litter of pigs. The first twenty-four hours after farrowing the sow will need no feed as a rule and she should be fed very sparingly for three or four days. Her feed at first should consist of slop made of warm water or bran or shorts. As soon as the pigs show a desire for something besides the dam's milk a pen should be arranged so that they can crawl in where the sow cannot get and a little skim-milk and middlings placed in a shallow trough so that they may get started to eat as young as possible. If they are fed all they will eat up clean of skim-milk, middlings and corn meal when weaning time comes they will receive no setback and they can be kept growing until they are ready to market when if they have been properly handled they will be found to be one of the most profitable branches of live stock husbandry on the farm.

Livingston Co.

C. C. O.

MARKET CLASSES AND GRADES OF SWINE.

Synopsis of the address of Prof. J. J. Ferguson, of Chicago, before the American Berkshire Congress, held at Lansing, March 16-18.

A review of live stock markets and prices for the past year must be highly satisfactory to breeders of pure-bred swine and producers of market hogs. Present prospects are that good prices will prevail for some time to come. Export trade in pork products is improving, while at home the American people are rapidly learning that good ham and bacon, properly cured, from hogs bred, fed and finished in the right way, are the most economical and appetizing of all our food products.

The producer of market hogs is always sure of an open market with fair prices. Steady markets and economy of gains are the best argument why well-bred hogs should have a permanent place in our animal husbandry.

We have in this country a great variety of natural conditions, resulting in a wide range of crop production. This leads to a marked difference in the character and quality of hogs produced in different sections, consequently we can readily divide our hog producing territory into well-defined areas, each producing a characteristic type of market hog. The corn-belt of the middle west has given us lard hogs; New York and New England states have produced a medium type between lard and bacon hogs, while the grain country of the northwest produces the highest grade of export bacon. A swine breeder, aiming for best results, should carefully study conditions of soil, climate, and crop production in his territory and select the breed or class of hogs, which has been known to thrive under similar conditions in other territory. It would be a mistake to endeavor to produce high-grade lard hogs in Minnesota and North Dakota, likewise it would be impossible to maintain a high standard in production of hogs for export bacon in Illinois and Iowa. While we cannot see any advantage in further multiplication of breeds, we believe there is a permanent place for each of our recognized breeds.

In handling mixed droves of hogs at large markets, the packers do not discriminate along breed lines; they handle pure-breds and grades of all recognized breeds. Thru wide market connections they are able to find an outlet for the product of all classes of hogs. There is, however, a class of hog, which, while profitable for the feeder to produce, is also a desirable hog in the packing-house and in the store of the retail dealer.

A good barrow should be smooth and well-finished, possessing a symmetrical outline with well-balanced development in all parts. He should stand squarely on sound, strong feet, with well shaped limbs, showing dense, firm bone, strong enough to carry him to a desirable finished weight without breaking down. The head and neck should be of medium weight; the shoulders and hams smooth, and laid evenly with the sides, shoulders free from shield and harshness, and hams firm and compact. There should be no surplus fat behind the shoulders, over the loins, around the tail-head, or along the bottom lines. While the most desirable weight changes from time to time,

depending on the demand for lard and provisions, a good packer hog should weigh between 225 and 300 pounds, with an average of 250 pounds. During the past ten years, there has been a fairly steady decline in the average weight of hogs received at western markets.

The ideal market hog comes from no particular breed, nor is he the result of any particular system of grading or cross-breeding, but it is true that some breeds show a high percentage of desirable market grades. While the number of market hogs, showing Berkshire blood is relatively small at western markets, the quality of Berkshire grades and crosses, is unusually high. They have long been recognized as profitable killers, cutting out good hams, tidy shoulders, extra good backs and loins, with a high proportion of side and belly cuts; in fact, many Berkshire grades are almost ideal hogs for bacon production.

The demand both from foreign and domestic markets, is for lighter, leaner meats finished at earlier ages. Berkshires are right in line with this demand as they will stand liberal feeding and come to market at eight to ten months, in prime condition for slaughter without being over-fat.

This address was illustrated by using typical specimens of live hogs, showing some of the leading market grades and classes. These hogs were slaughtered and on the following day the carcasses were shown and the relative value of different grades and weights compared. A packer hog of Berkshire breeding was cut up to show the way in which this class of hogs is handled for domestic trade. A grade Yorkshire barrow was cut up after the method followed for exporting these hogs to foreign markets.

Breeders of Berkshire swine should keep closely in touch with market conditions, and as in the past, should endeavor to supply breeding stock which will produce the highest grade of market hogs. While size, scale and strength of bone are desirable, these should not be developed to the point of injuring quality in the finished meat product. We recognize the Berkshire as being medium in type and believe if Berkshires are maintained as such, there will be a steadily increasing demand for pure-bred Berkshires for improving the common stock of the country.

PEAS AND OATS FOR HOG PASTURE.

Kindly advise what variety of peas should be sown with oats for hog pasture; also proportion of each to sow. Should the hogs be turned in while the crop is green or after the grain has matured?

Oakland Co.

SUBSCRIBER.

The common field pea, or what is known as the Canada field pea, is the right pea to sow with oats for either hog pasture or cow pasture, or in fact to be ripened for grain for either kind of stock. For hog pasture I would mix the peas and oats equal parts by weight. I would also sow a little Dwarf Essex Rape seed at the same time as this comes on in the fall and makes a splendid pasture for hogs. As I understand it this is intended for pasture during the summer time. Now the hogs could be turned in when the peas and oats are four or five inches high and they ought to be kept fed down so that they won't grow up and mature, otherwise they will furnish very little pasture. If the hogs don't eat them down fast enough, it would be a good plan to run the mowing machine over and clip them off. The idea is not to let them form joints or head out, because if they do, they will stop growing, while if they are fed down or kept clipped down, they will remain green during the greater part of the summer and furnish a nice green pasture.

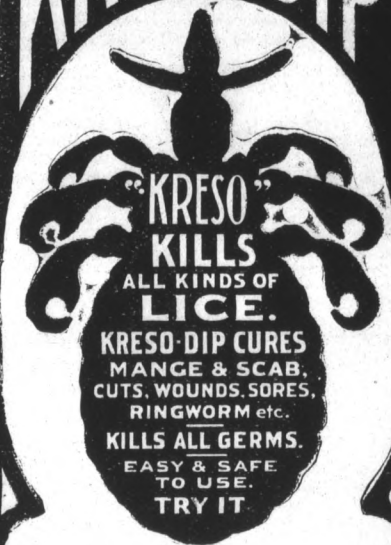
Where peas are sown to be hogged down in the fall, that's a different proposition. You keep the hogs out until the peas are about ready to cut, then turn them in. Some people fatten hogs on peas in this way. It, however, is quite an extravagant way because there is more or less waste to it. I would prefer to pasture and then to harvest the peas sown on another field and feed them in addition to the pasture. Certainly if you haven't any other hog pasture, it will pay you to pasture the oats and peas.

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VETERINARY

CONDUCTED BY DR. W. C. FAIR,
CLEVELAND OHIO.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. Many queries are answered that apply to the same ailments. If this column is watched carefully you will probably find the desired information in a reply that has been made to some one else.

Diarrhoea.—My turkey has bowel trouble and seems to have lost his appetite. Tell me what to give him to check his diarrhoea. H. M. D., Marion, Mich.—Give him two drops creosote and two drops fluid extract opium and five drops tr. cinnamon at a dose two or three times a day.

Bog Spavin and Thoro-Pin.—My yearling colt has bog spavin and thoro-pin, at least my neighbors tell me so. What would you advise me to do for it? J. F. B., Emmet, Mich.—Blister hock with cerate of cantharides or else use any one of the blisters which are advertised regularly in this paper.

Bog Spavin.—My 2-year-old colt has what is commonly called bog spavin; by blistering them I succeeded in reducing the bunched but they seem to grow larger when I drive him. How should such cases be treated? C. L. C., Monroe, Mich.—Light blisters will reduce and strengthen the joint but the same cause that once produced it will bring it on again unless he is given a long rest.

Scours.—We have a heifer that is about a year old which has scours part of the time; her urine has been tinted with blood at times; her appetite is good and she drinks large quantities of water. B. W. A., Jonesville, Mich.—Give ½ oz. sulfate iron, ½ oz. gentian and 1 oz. powdered resin at a dose in feed twice a day for 10 days, then once daily for 10 more.

Liquid Evacuations from Bowels.—I have a 2-year-old mare that passes too much liquid when her bowels move; some days worse than others. She has some sort of skin eruption affecting her neck. A. N., Marietta, Mich.—Your filly does not digest her food properly. Give 1 oz. bicarbonate soda, ½ oz. gentian and 1 oz. ginger at a dose in feed three times a day for 30 days.

Bruised Shoulder—Abscess—Fracture.—My 10-months-old colt went lame in right fore leg; we poulticed foot and some time later shoulder swelled and broke open. This colt has been unable to get up without help. E. M. C., Unionville, Mich.—I am inclined to believe that your colt fractured his shoulder, the ends of bones have perhaps slipped each other and a fibrous union is taking place instead of a bony union, which, if so, may mean he will be lame a long time. Keep him quiet and he will possibly get well.

Heifer with Two Teats Grown Together.—Will you give me a little advice regarding a heifer with two teats grown together. What can be done for her? She is of good milk producers. I. S., Berlin, Mich.—You had better fatten her.

Mare Perspires in Stable.—Nine-year-old mare has not been in thrifty condition for past two or three winters; she has always gained in flesh and looked well during summer. She appears to sweat on certain parts of body and very often perspires while standing in stable. Have been feeding a compound of gentian, rosin, ginger and powdered sulfate iron, and a teaspoonful Fowler's solution, at a dose in feed twice a day. She seems to have gained some in flesh but keeps her dull appearance and sweats far too much. J. S., Midland, Mich.—Your mare's digestion is not good; besides, her circulation is faulty. Give 1 dr. ground nux vomica, ½ oz. ground gentian and 2 drs. powdered nitrate potash at a dose in feed three times a day for 30 days. If she is heavy coated, which she perhaps is, clip her.

Abortion in Cows.—Please give a cure for abortion in a cow. A. K., Montague, Mich.—There are two general causes for abortion in animals. One is accident or injury, the other, infection or debilitating diseases. If you have had but one cow affected it is perhaps the result of an injury; therefore it will not be necessary to do much for her. However, you had better give her 25 drops of carbolic acid in a pint of water, mixing it with feed twice a day. If she has any vaginal discharge dissolve 1 oz. sulfate zinc in 3 qts. tepid water; wash out vagina thru a rubber tube and funnel every day or two until discharge ceases, then breed her.

Loss of Appetite—Impaction of Bowels.—Six-year-old cow had a calf about six weeks ago. Everything seemed to go all right for two weeks, then she lost her appetite, refused to eat grain and bowels became constipated. I overcame this difficulty by feeding carrots for a while, but she tired of them; then I fed potatoes, which she appeared to relish; then she tired of eating them. She was not inclined to eat hay and rough fodder. I examined her mouth and found her teeth loose. Cow always kept in good condition before this ailment came on. H. S., Sigsbee, Mich.—Give 20 grs. calomel once a week; also give 1 oz. ground gentian and 1 oz. powdered charcoal at a dose in feed or as a drench three times a day; also give a pint of raw linseed oil daily if necessary to keep bowels open.

Septic Poison.—Fully nine months old was born with two large puffs or soft bunches on outside of each fore leg. Three months later these bunches seemed to go away but left her sore in front, making her travel on her toes. C. G. M., Blissfield, Mich.—Shortly after birth your colt suffered from septic infection, the result of a decomposed umbilical cord, or other infection was absorbed thru navel

opening. This could have been prevented at time of birth by applying any good home healing remedy, such as coal tar disinfectant full strength, or one part bichloride mercury in 500 parts water, or one part carbolic acid in 30 parts water, or one part oxide zinc in parts water, or one part oxide zinc in three parts vaseline, or equal parts iodoform, borac acid and tannic acid. Stockmen will find it to their advantage to keep this in mind and act accordingly. I am afraid that your colt is now in a condition from which he will not fully recover. Apply iodine ointment to affected parts every day or two. Before making these applications clip off hair.

Enlargement on Inside of Hock.—Colt two years old has two enlargements on inside of hock joint. B. E. B., Samaria, Mich.—You will find it difficult to remove them at all, no matter what you apply. Try applications of iodine ointment, or one part red iodide mercury in eight parts lard once a week; or apply tincture iodine every day or two.

Teat Cut Off.—A good cow met with an accident, having end of one teat cut off; this allows milk to drip. S. K., Hesperia, Mich.—Apply peroxide-hydrogen twice daily; ten minutes after each application apply borac acid; this will perhaps effect a cure.

Navicular Lameness.—Give best treatment for coffin-joint lameness and state whether treatment will affect life of foot. I have been told it would. H. F., Whittemore, Mich.—Coffin-joint lameness should be regarded as a serious ailment, for such cases do not always yield to treatment. Fairly good results follow applications of iodine, blistering with cerate of cantharides, or blistering with one part red iodide mercury and from four to eight parts of lard. Or you can safely use any of the blisters that are advertised regularly in this paper.

Acute Rheumatism.—Valuable horse six years old appears to be sore and stiff in shoulders; this attack came on March 17; lately the trouble has left fore-quarters and settled in the hind quarters. He gets up with difficulty. F. M., Saranac, Mich.—Give him 2 drs. carbonate potash at a dose three or four times a day; also give 1 dr. ground nux vomica twice a day for two or three weeks. Apply to sore parts equal parts spirits camphor and alcohol.

Grubs.—Is there no way of killing grubs that are in the backs of cattle? J. G., Vermontville, Mich.—Altho it is rather tedious work, I know of no better way than to use a real sharp penknife in enlarging the openings in skin, then squeezing out grubs and killing them. You can do it quicker if your knife is sharpened on back as well as face. Then apply one part carbolic acid in 30 parts water to sores once a day, or dissolve 1 oz. sulfate zinc in a quart of water and apply this lotion once a day.

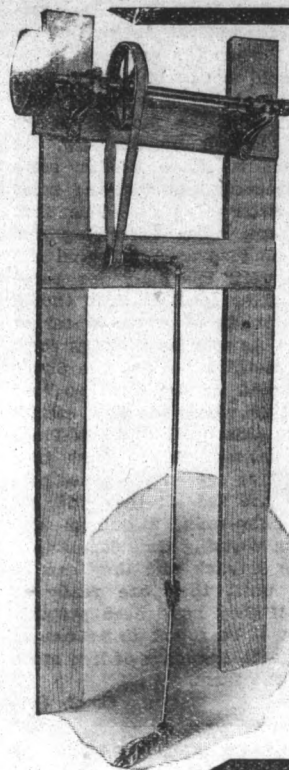
Looseness of Bowels.—Old horse's bowels are altogether too loose. He is fed clover, hay and corn; is thin in flesh and all bowel movements are soft. C. V. V., Niles, Mich.—Clover hay has a laxative effect, therefore you had better feed timothy, and oats instead of corn. Also give ½ oz. ground ginger, 2 drs. powdered catechu and ½ oz. powdered sulfate iron at a dose in feed three times a day.

Tongue Loller.—Five-year-old mare hangs her tongue out when driven. J. R., Holton, Mich.—If she carries her tongue over bit you can prevent it by using a spoon bit which will prevent her getting tongue over bit after bridle is on.

Laryngitis.—Ten-year-old mare took sick Feb. 27; local Vet. treated her for inflammation of bowels; a week later her glands began to swell; while eating a mash she would choke. I steamed her with burned leather and put oil of tar on tongue and some liniment on throat. G. G. W., Bellaire, Mich.—Apply equal parts tincture iodine, spirits camphor and extract witch hazel to throat once or twice a day. Also dissolve 1 oz. chlorate potash in a quart of water and inject some into back of mouth and throat three times a day.

Obstructed Teat.—Cow has a growth in end of teat which prevents milk flowing freely from this quarter; she has rather poor appetite. H. E., Montague, Mich.—Remove growth with a knife and apply borac acid to sore twice a day. Give her 1 oz. ground gentian, 2 drs. ground cinchona and 3 drs. quassia, either in feed or as a drench, two or three times a day.

Barren Mare—Yeast Treatment—Leucorrhoea.—I appreciated your prescription in M. F. of the 20th ult., and especially the one prescribing for barren mares (yeast treatment). To what class of cases is the yeast treatment applicable? Shall I inject the fluid into womb? Also is this treatment equally effective in cases of leucorrhoea when there is a heavy mucus or pus-like discharge? I would also like to know if the yeast fluid should not be strained thru a cloth that has been boiled. Does water taken into the body thru food remain in the tissues longer than water drunk and is it more apt to clog the kidneys than drinking water? L. P. B., Portland, Mich.—The yeast treatment is generally effective in curing barrenness in horses and cattle when the disorder is due to an acid condition of the genital tract; yeast cakes very often contain a little corn meal; therefore, in the preparation of this yeast fluid it is proper, when the boiled water is added to the mixture, to filter it thru sterilized cheesecloth. This is done to prevent foreign or irritating bodies lodging and remaining in the uterus of the animal injected. Adding some sugar or wheat middlings to the water that is mixed with the yeast will improve the mixture, thus furnishing food for the germs to live on. When an animal suffers from leucorrhoea, preventing conception, the yeast treatment will fail. Better use, in these cases, a weak solution of permanganate potash, chloride of zinc, sulfate of zinc or carbolic acid. It is also important to give mineral tonics, such as I have repeatedly prescribed for this ailment.



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We will send you 100 lbs. of DR. HOLLAND'S MEDICATED STOCK SALT on 60 days' trial freight prepaid. If you derive no benefit, it costs you nothing; if you do it costs you \$5.00. Give us your order at once. The HOLLAND STOCK REMEDY COMPANY, Wellington, Ohio.

WE'VE GOT IT NOW MR. DAIRYMAN,

and want you to know how to run your cream separator right. To do this you should have a Strite Governor Pulley. If it's a Strite it's right. For further information address Strite Governor Pulley Co., 303 Third St. So., Minneapolis, Minn.

GIVE THE OLD EWES GOOD CARE.

Once more I want to appeal to the sheep men of Michigan to take better care of their ewes, and thereby improve the quality of lambs and increase the per cent raised.

The first thing we should do is to see that the sheep folds are dry, well ventilated and clean. Draw out all the manure and spread it on the corn ground. It not only lessens the spring work, but improves the health of the ewes and lambs.

Too often a flock of ewes are taken from a shed or strawstack and turned into a barn, where a bunch of lambs have been fed without cleaning it out or even bedding it properly. This is all wrong.

A sheepshed should be cleaned out every three or four weeks, and kept well bedded.

The ewe must have outdoor exercise each day, and fresh water and salt before them all the time, and a variety of food.

We have found that a feed of clover hay night and morning, with corn stalks fed in the field or yard at noon, makes an ideal roughage.

For grain feed about a pint per head of corn, oats, bran and oil meal, equal parts by weight, and a good supply of roots.

Then you will have your ewe growing a fine staple of wool and be in fine condition for motherhood.

The clover hay, oil meal and roots keep them from becoming feverish and tend to increase the flow of milk.

There is nothing more discouraging than to have a ewe drop a lamb and then refuse to own it because she has no milk.

In my 20 years of experience I have seen but few ewes that had plenty of milk refuse to own their lambs.

Once in a while I find a hyena in sheep's clothing, but she is nearly always a poor milker, and I mark her to go. No matter how well bred she is.

I have never had any trouble in grafting (or having a ewe own another ewe's lamb), when the ewe has plenty of milk. Thus we not only get more and better wool but save a larger percent of our lambs. When the ewes are properly cared for a little grain each day will pay a handsome profit when fed to a flock of ewes.

I find that a little extra care at lambing time is sure to meet with reward. I know by experience that it is tough to get out of a warm bed on a cold blustery night, to look after a poor, scrawny lamb, but just think, that if you lose the lamb, you have lost the use of your ewe for the year, and at least \$5, for we surely can make the lamb weigh 100 lbs. for \$2.

The trouble with early lambs is the lack of milk and liability of becoming chilled. Whenever we have a chilled lamb we give it a warm bath, rub it well then wrap it up in a woolen blanket, give it some of its mother's milk, mixed with cow's milk. Be sure it is just warm enough, not too hot or cold, for here is the critical moment in the lamb's life, and all depends on the flockmaster whether it lives or dies. Do not keep it away from its mother too long, or she may refuse to own it. Be sure to have two or three small pens fixed in the warmest part of the barn, for such cases as this and when you see a ewe that wants to lamb put her in one of these pens by herself, and she will do much better than to remain in the flock and be bruised around and have her lamb trampled upon by the other sheep. Now, when these lambs are ten days old they will begin to nibble at hay and a little grain. Have a creep fixed where you can keep a small V-shaped trough supplied with bran and ground oats and a very little oil meal. Keep this trough clean and if you are a shepherd you will enjoy seeing the little lambs trying to make sheep of themselves at this trough. I think the best time to dock a lamb is when they are from 10 to 15 days' old, and they should be trimmed (or castrated) before they are four weeks' old. Never do both at the same time for it is too great a shock to their nervous system, (but be sure to dock and trim even if you must do it both at the same time). One of the worst troubles that the professional feeder has in Michigan in buying lambs, is the great number of buck lambs he is compelled to buy.

There is always from 50c to \$1 difference in price between a good straight lamb and a ram. Besides they are sure

to be chasing the ewe lambs and very liable to impregnate a few of the larger ewe lambs and on high feed in the late winter or early spring these will abort, causing loss in weight and condition, besides we are liable to leave some of the ram lambs on the farm. Then if allowed to run with the flock, even if he is a good one, we are inbreeding and having lambs come all times of the year.

I am a firm believer in close trimming and a lamb that escapes my knife must have a good mother, a full blood sire, registered, and last, but not least, he must be a good individual himself, head erect and well capped, broadchested, ribs well sprung, square hips, and legs wide apart, and if he does not continue to develop properly the butcher gets him as soon as I can make him weigh 80 lbs. Calhoun Co. G. A. HOUCK.

LIVE STOCK NOTES.

Of late the Chicago and other western hog markets have been on the see-saw order, and this has been especially the case since a few weeks ago, when prime heavy hogs sold within a nickel of \$7 per 100 lbs. Long ago the packers made the prediction that the hog market was going to be lowered until it reached a \$5 basis. Of course, such a low basis was out of the question under all the circumstances, as there was no excessive supply of hogs in the country, but, on the contrary, all the indications pointed to a shortage, for a large part of the pig crop had been marketed unusually young. Hence, the pendulum swung the other way, and there have been a number of recoveries in prices after recent declines in prices, but the packers make vigorous kicks against \$7 hogs. However, the market has shown a firm undertone, subject, of course, to reactions in prices when the receipts are on a larger scale than usual. Of course, prices are influenced strongly one way or the other by the volume of the eastern shipping demand, and whenever this is smaller than usual prices are reasonably certain to fall, provided the receipts are of liberal proportions.

The Chicago sheep market has been receiving greatly increased receipts of clipped flocks of both sheep and lambs, many sheepmen being anxious to shear in order to be able to obtain high prices now offered for the spring wool clip. Colorado has been marketing a great many more lambs, and prime little Mexican yearlings have been marketed more freely. The old complaint is heard daily that sheepmen are blind to their own interests in a great majority of cases and are marketing their flocks only half fat. It would appear that now, if ever, it will pay feeders to produce prime mutton, and those who are doing so feel well satisfied. From now on a large part of the lambs marketed will come from the northern Colorado feeding sections. Lamb feeding has been carried on in that state much less extensively this season than usual, and it is proving in a majority of cases highly profitable, despite the dearth of feed. But the largest profits are being made by farmers rather than by professional feeders.

General Superintendent Bernard H. Heide, of the International Live Stock Exposition, who has been down in Texas recently, gives good accounts of live stock interests in that enterprising state. He says: "Texas is making great progress in live stock. Quality at the Fort Worth Stock Show this year showed a marked improvement over previous years. Breeders in the southwest are spending money for good bulls and at the gait they are going the time is not far distant when they will be able to boast of possessing the best. It is very dry in Texas. Some rain has fallen recently, but more is needed to revive vegetation and justify prediction of fat grass cattle. The movement of Texas stockers to the northwest will be light, but Kansas and Oklahoma pastures will be stocked to their full capacity. The movement to both states from Texas will be early and heavy."

Horses are selling at higher prices at Newton, Kansas, than they have for years. Several days ago at a sale a team of mares brot \$527, and a mare that was eleven years old sold at \$230. These animals were not thoro-bred stock, but were merely good, heavy farm horses. At a sale near there where a horse sale is held every year prices at the sale averaged \$20 per head higher than at sales for the last eight years. It is clear to well-informed people that the number of horses of the better class bred in horse breeding districts is far from keeping pace with market requirements, and farmers as a class are not breeding their own horses. Liberal profits await farmers who breed choice horses for the market, and it will pay to use high-class sires and mares. Too many scrubs are bred, and this is an overdone and poor paying industry. Inferior work horses glut western markets much of the time and are apt to sell at unremunerative prices to their owners. Word comes from Woodstock, Iowa, that there is an urgent demand from farmers for blocky chunks weighing from 1,000 to 1,400 pounds for farm use, altho Iowa has been for years a famous state for the horse breeding industry. Many foals were dropped in Iowa in 1908, but the number of horses shipped out of the state is said to equal the increase. In fact, so urgent is the farm demand in Iowa for horses that horses are being shipped into the state to make good the shortage, and public sales are being held. Of late farmers have been paying higher prices for horses in many instances than country shippers to western markets can afford to offer.

THOUSANDS HAVE KIDNEY TROUBLE AND DON'T KNOW IT

Weak and unhealthy kidneys are responsible for more sickness and suffering than any other disease, therefore, when through neglect or other causes, kidney trouble is permitted to continue, serious results are sure to follow.



Your other organs may need attention—but your kidneys most, because they do most and should have attention first.

If you are sick or "feel badly," begin taking Dr. Kilmer's Swamp-Root, the great kidney, liver and bladder remedy, because as soon as your kidneys begin to get better they will help all the other organs to health.

Prevalency of Kidney Disease.

Most people do not realize the alarming increase and remarkable prevalence of kidney disease. While kidney disorders are the most common diseases that prevail, they are almost the last rec-

If You Need a Medicine You Should Have the Best.

Swamp-Root is always kept up to its high standard of purity and excellence. A sworn certificate of purity with every bottle.

SAMPLE BOTTLE FREE.—To prove the wonderful merits of Swamp-Root you may have a sample bottle and a book of valuable information, both sent absolutely free by mail. The book contains many of the thousands of letters received from men and women who found Swamp-Root to be just the remedy they needed. The value and success of Swamp-Root is so well known that our readers are advised to send for a sample bottle. Address Dr. Kilmer & Co., Binghamton, N. Y., be sure to say you read this generous offer in The Detroit Michigan Farmer. The genuineness of this offer is guaranteed.

MAKE 20 CENTS MORE PER SHEEP \$9.75

on every one you shear by using the New Stewart Shearing Machine With 4 sets of knives, only... If you have but five sheep it will pay you to own this wonderful shearing machine. It does not cut or hack sheep like hand shears and gets one pound and over more wool per head. It shears any kind of wool easily and quickly. WE GUARANTEE IT FOR 25 YEARS. All gears are cut from solid metal, not cast; all wearing parts are file hard; spindles are ground and polished, and the driving mechanism in enclosed from dust and dirt and runs in oil. 95 per cent of all the shearing machines used in the world are Stewart patents. They are not to be compared in any way with the cheaply made, always out of order, belt machines. Send \$2.00 with your order and we will ship C.O.D. for the balance. OUR VALUABLE FREE BOOK "How to Shear Sheep," by the champion shearers of the world, will interest you. Send for copy and our big new catalog showing the largest line of shearing and clipping machines on earth. It will pay you. Write today. Chicago Flexible Shaft Co., 115 La Salle Avenue Chicago

BETTER THAN "FIRSTS"

There are, what the rubber boot maker calls, "firsts and seconds." Formerly, "firsts" were the best that could be made, and "seconds" were "firsts" with flaws in them. Nowadays, "firsts" only mean, best workmanship—but not best rubber. Price competition started the use of remelted "old junk" rubber. "BUFFALO BRAND" rubber boots are made only of lively pure Para rubber—that's why they wear better and longer than others. Therefore, the best workmanship with the best (Para) rubber has made Buffalo Brand known as "Better than Firsts." Look for yellow label. Insist on your dealer telling you all he knows about these rubber boots—INSIST.

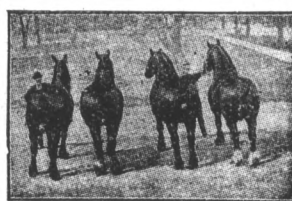
W. H. WALKER & CO., 77-83 So. Pearl St., Buffalo, N. Y.

New Importation Just Arrived
Percherons, Clydesdales, and English Hackneys.

These horses are picked from the choicest breeds in Europe. Stables right in town. Free bus to the trains. Byron is located on the Toledo & Ann Arbor R. R., 44 miles north of Ann Arbor and 7 miles south of Durand on the Grand Trunk R. R. These stallions are blacks, bays and chestnuts from 3 to 6 years old.

ALL AT LOW PRICES.

CALKINS & AUGSBURY, Proprietors, Byron, Michigan



W. E. PRITCHARD & SONS
OTTAWA, ILLINOIS.
American Bred Percheron & Shire Horses

We are offering a high-class bunch of sound young stallions of the real draft type, with big bone, size and quality. We can suit the most particular in horse and price. Special inducements for men who buy two or more to re-sell. Special inducements for men who buy two or more to re-sell. Write us for particulars. Located on Rock Island main line, and Aurora branch of Burlington Railways.

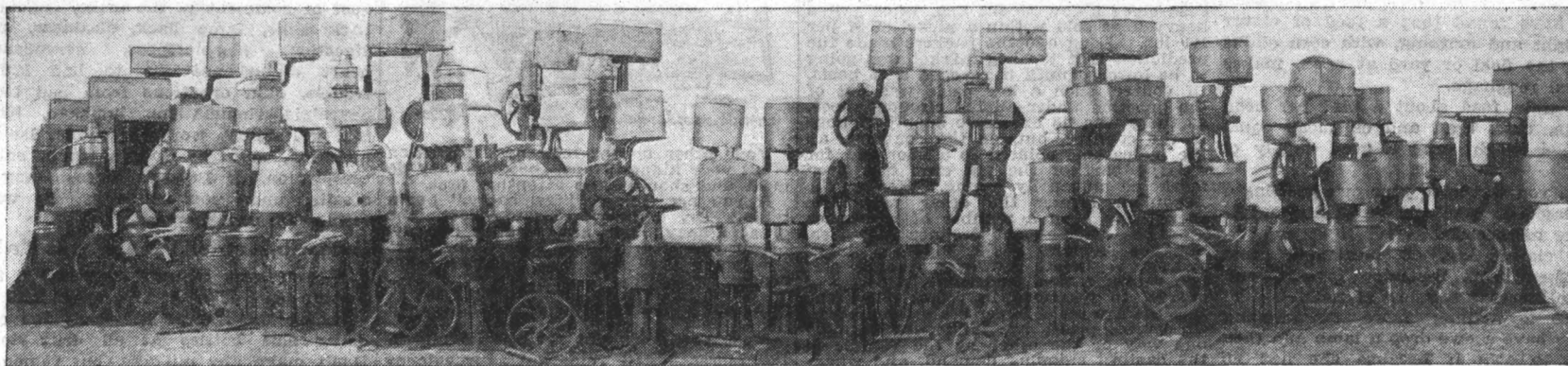


Did You Ever See the Like?

This picture shows just a small part of the **car-loads** of common "bucket bowl" cream separators, of all kinds, we have recently received in exchange for Sharples Tubulars. The former owners thought they wanted "bucket bowl" machines. But they soon wished they had bought Sharples Tubulars instead.

This is just a hint to you from what others have

Take the hint. Buy a Sharples Tubular in the first place.



Tubulars are made in the world's biggest separator factory. 1908 sales way ahead of 1907—out of sight of most, if not all, competitors combined. The fine features of our 1909 Tubular "A" are making 1909 still better. Catalog No. 152 tells all about them.

learned by experience. Thought they would like common "bucket bowl" cream separators—the kind with bowls set open end up, fed through the top, and filled with contraptions. Tried them, were not satisfied, traded them to us, for a small part of their cost, in part payment for a Sharples Tubular. They made a mistake in buying "bucket bowl" machines, but were sensible enough to correct it.

The Sharples Separator Co.

Toronto, Can. West Chester, Penna. Portland, Ore.
Winnipeg, Can. Chicago, Ills. San Francisco, Cal.

Jack and Jennetts For Sale.



If you want a first class Jack or Jennett at the very lowest prices, visit our barns, for they are full of high class stock, and can sell them to you right, and save you the middleman's profit. All stock guaranteed. Send for my 25 reasons why it pays to raise mules. Address

BAKER'S JACK FARM, Lawrence, Ind.



FARMERS ATTENTION. No. 1 cedar posts and shingles for sale. Write JESSE L. BARRETT, Milwaukee, Mich.

TOO LATE TO CLASSIFY.

Bee Hives, Sections, Foundation, Smokers, Etc. We keep everything the bees need, and all Root's goods. Send for our 1909 catalog. Cash paid for beeswax. Prompt attention given to your order. M. H. Hant & Son, Condit St., Lansing, Mich.

BARRED ROCKS—A few choice cockerels yet. Eggs \$1.50; \$5 per 100, Thompson strain. As good as the best. L. R. Kune, Adrian, Mich. Phone 121.

WHITE Wyandottes, free range stock eggs \$2 per 45, satisfactory hatch guaranteed or eggs duplicated at half price. Jos. Neuman, R. 4, Dor, Mich.

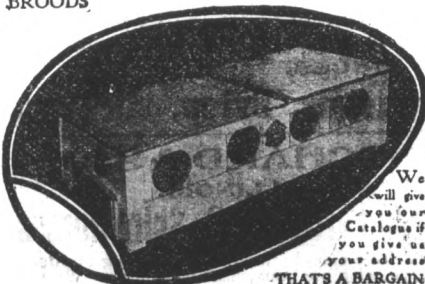
We have a very interesting article on

ARTIFICIAL INCUBATION AND BROODING

written by Mr. RALPH R. ROOT, which may throw some light on your past experiences. We will be pleased to send this article to anyone sending in their name and address.

THE BROODER THAT BROODS

(COOL FRESH AIR)



Dept 4

ROOT INCUBATOR CO.

WARMTH BY CONTACT

ROOT BROODERS

FOR SALE A GOOD REGISTERED PERCHERON STALLION

Coming four years old. Good Style. Good Bone—Best of Breeding. Found and all right. Price reasonable. PARSONS & BALDWIN, Watervliet, Mich.

Shinevale Farm, Pt. Austin, Mich., will offer some Berkshire brood sows and gilts—Watch this ad.

BREEDERS' DIRECTORY.

CATTLE.

ABERDEEN-ANGUS.

Herd headed by UNDULATA BLACKBIRD ITD 83836, one of the best sons of PRINCE ITD 50006, and Grand Champion Bull at the Detroit and Grand Rapids Fairs of 1907 and 1908. Herd consists of Erics, Blackbirds, Prides, etc. WOODCOTE STOCK FARM, Ionia, Mich.

ABERDEEN ANGUS bull, 1 Polled Durham herd bull closely related to World's Champion, and one yearling bull left. Freight and car fare to buyers. CLOVER BLOSSOM FARM, Port Austin, Mich.

HOLSTEINS—A fine registered bull of excellent breeding individuality, 17 months old for \$100. I. M. SHORMAN, Fowlerville, Mich.

Holstein-Friesians. HICORY GROVE STOCK FARM, Owen Tait, Proprietor, R. 1, Oak Grove, Liv. Co., Michigan. Bell phone

HOLSTEIN FRIESIANS—A few fine bull calves sire Canary Mercers Royal King. W. B. JONES, Oak Grove, R. No. 2, Mich.

TOP NOTCH HOLSTEINS.

"Top Notch" registered young Holstein Bulls, combining in themselves, in excellent proportion, the blood of cows who now hold, and in the past have held World's Records for milk and butter-fat at fair prices. McPHERSON FARMS CO., Howell, Mich.

HOLSTEIN BULLS. One 15 mo. old, A. R. O., dam, a show bull all over. One 10 mo., one 7 mo., four 3 weeks to 2 mo. old. Buy a good one, worth the money. Write quick. I want to sell every one of these before the 20th. L. E. CONNELL, Fayette, Ohio.

HEREFORDS:—Both sexes and all ages for sale. Also Poland-China hogs. R. E. ALLEN, Paw Paw, Mich.

JERSEY BULLS READY FOR SERVICE. Three young bulls ready for spring service, out of good cows with records of 400 to 500 pounds of butter in a year with only ordinary care. Also a fine lot of young calves. Write for description and prices. COLON C. LILLIE, Coopersville, Mich.



Northern Grown Jerseys. ROYCROFT FARM, Sidnaw, Mich.

JERSEY BULL CALF, born March 10, '08. Dam's average yearly milk record 5 years 8528 lbs.; test 5 4-10. Sire's Dams rec. 10062 lbs. as 2-year-old test 5 2-10. Murray-Waterman Co., Ann Arbor, Mich. R. 6.

RED POLLED BULLS, from 6 to 15 months old, sows. John Berner & Son, Grand Ledge, Michigan.

MARSTON FARM—JERSEY CATTLE. T. F. MARSTON, Bay City, Michigan.

CHOICE JERSEYS. Large St. Lamberts. Young stock of either sex for sale. CLARENCE BRISTOL, R. No. 2, Fenton, Mich.

Pure Bates Shorthorns. Polled Durhams. A. D. DeGarmo, Highland, Mich.

RED POLLED CATTLE—2 very fine bulls, 11 months old, \$50 each. Young cows and heifers at \$50 to \$75. E. Brackett, Allegan, Michigan.

WOODLAND SHORTHORNS. Apricot, Aldrie Duchess, Hudson Duchess, and Roan Duchess families. Both sexes and all ages for sale. Priced to sell and sell quick. MEYER BROS., R. 7, Howell, Michigan.

Francisco Farm Shorthorns. Our foundation stock comes from several of the best herds in the country. Nothing for sale at present. P. P. POPE, Mt. Pleasant, Michigan.

J. B. CROUSE STOCK FARM, HARTLAND, MICH., breeder of SHORT-HORN CATTLE. Have all ages, both sexes. Color—reds and roans. Quality and prices right.

SHEEP.

ERDENHEIM FARM SHROPSHIRE EDWIN S. GEORGE, Owner.

Rams and Ewes for Sale.

WRITE FOR PRICES TO ROBERT GROVES, Shepherd, R. F. D. No. 3, Pontiac, Mich.

SHROPSHIRE HALL STOCK FARM. Will make special prices for thirty days, on ewes from 1 to 3 years old, all bred to Imported Cooper, and Mansell rams to lamb in March and April, also on very choice ewe lambs, this is to make room for an importation that is going to arrive this spring. L. S. DUNHAM & SONS, Concord, Michigan.

GO INTO SHEEP RAISING. Buy of Michigan's Largest Breeder of good sheep. Romeyn C. Parsons, Grand Ledge, Mich.

RAMBOUILLET—Flock founded 1892 with 40 ewes selected from one hundred registered ewes of the best breeding possible. J. Q. A. COOK, Morrice, Mich.

HOGS.

CHOICE FALL GILTS and boar pigs. Right breeding and prices right. Also a few aged sows bred for spring farrow. A. A. Fattullo, Deckerville, Mich.

BERKSHIRES—SPRING PIGS. Premier Longfellow and Masterpiece, the world's champions. C. D. WOODBURY, Lansing, Mich.

BERKSHIRES—Sows bred to Duke, and our new herd boar Prime Bacon 98611, a great son of the noted Lord Bacon, and of intense Masterpiece breeding. Guernseys. M. B. Tukeys, B. Ply. Rocks, Pekin Ducks. Hupp Farms, Birmingham, Mich. G. C. Hupp, Mgr

NORTHERN GROWN BERKSHIRES. ROYCROFT FARM, Sidnaw, Mich.

DAMS BROS. IMPROVED CHESTER WHITES, Litchfield, Mich., won more premiums in '08 than any other herd in Michigan. Stock all ages for sale. Prize winning W. Orpington, W. Leghorn and Buff Rock eggs, \$1 per 15. Shorthorn bulls & heifers

CHESTER WHITES—Fall pigs, either sex, \$12. Spring pigs \$8. Will breed gilts for September farrow for \$20. Satisfaction guaranteed. COLON C. LILLIE, Coopersville, Mich.

CHESTER WHITES—A few choice young sows bred for April farrow. Also fall pigs either sex. Orders booked for June delivery. W. O. WILSON, Okemos, Mich.

DUROC JERSEY SWINE, Shepherd Dogs. B. J. H. BANGHART, Lansing, Mich.

Duroc Jerseys—Nothing for sale at present. CAREY U. EDMONDS, Hastings, Mich.

DUROC Jersey of size and quality. 40 Boars ready for service. 50 sows at Farmers Prices. Satisfaction Guaranteed. J. C. Barney, Coldwater, Mich.

O. I. C.'s Boars & sows all sold, I have a fine lot of young pigs that will soon be ready to ship. A. NEWMAN, Route No. 1, Mariette, Mich.

O. I. C.'s—ALL AGES. Thirty sows bred for spring farrow. Shipped on approval. H. H. JUMP, Maults, Mich.

O. I. C. Boars ready for service. Spring pigs by grandson of World's Grand Champion. Glenwood Stock Farm, Zeeland, Michigan, R. 6. Phone 94.

O. I. C. swine very prolific. My herd is headed with a grand son of Jackson Chief, the world's Champion and Grand Champion, the greatest O. I. C. boar in the world, also a Grand son of Tutesy second, the world champion sow. Place your order now for spring pigs. A. J. GORDEN, R. No. 2, Dor, Mich.

EXTRA CHOICE P. C. Boar, one year old. Breeding individual and price right. WOOD & SONS, Salline, Michigan.

P. C. Sows All Sold. 10 heavy, boned boars ready for service. One choice registered RED POLL COW, with fine bull by side. BUFF ROCK COCKERELS at \$1 and \$2, as long as they last. Write today for what you want. WM. WAFFLE, Jr., Coldwater, Michigan.

FRANCISCO FARM POLAND-CHINAS. Boars and sows all cleaned up. Am booking orders for spring pigs. P. P. POPE, Mt. Pleasant, Mich.

HEAVY BONED Poland China boars and young Short-horn bulls at bargain. Send for snap-shot photos. Robert Neve, Plerson, Mich.

Large English Yorkshires. Some splendid fall pigs of either sex at \$12 each. Also a fine lot of spring pigs at \$8 each. Will breed gilts for fall farrow at \$20. Satisfaction guaranteed. COLON C. LILLIE, Coopersville, Mich.

Always mention the Michigan Farmer when writing to advertisers.

form nutritive pound cost and to show the variation in value in the ton prices in the left hand column. By reference to the table one will see that the difference shown in the ton value of hay is but little when the nutrients are equalized, altho if the protein was increased 50 per cent more it would set clover ahead to about \$8.60. Both corn stover and corn fodder show up well—more than their real value, in many cases, perhaps—and yet we all know how the fresh cows fill the pail when getting a liberal ration of good, bright, sweet corn fodder and a grain feed to match. The Wisconsin style planted in the hill and well eared silage shows a value of 25 per cent over the more common sort.

Sugar beets at \$5 per ton form the basis for wet beet pulp at \$3.40, carrots at \$3.92 and mangles at \$3.00. I am a bit disappointed in both carrots and mangles, but am prepared to accept the showing and consider all roots as a relish and a regulator instead of a cheap producer of nutrition.

The column showing pounds digestible nutrients for \$1 tells its own story and proves the correctness of cost as shown in adjoining column. These figures plainly indicate that when we scrimp on roughage, when short, in preference to buying, and increase the grain feed to maintain the flow of milk, we are paying practically two dollars to one for every dollar's worth of nutrients so substituted, as in good hay at \$8.00 per ton we get 124 lbs. for \$1.00, or at a cost of 80c per 100 lbs., whereas in a grain mixture we would get only 63 to 66 lbs. for the same outlay, or at a cost of \$1.49 to \$1.57 per 100 lbs. And this, mind you, when the grain feed is selected with a view to rigid economy. If bran, oats or many of the commercial mixtures are used the added expense would be still more largely increased.

Figured on Extended Basis of Protein 1.50, Carbohydrates 1.00, Ffat 2.25.

Prices Per Ton.	Names of Dairy Feeds and Fodders.	Lbs. Digest. Nutrients For \$1.00.	Cost Total Nutrients Per 100 lbs.
\$24.67	Three richest carbohydrate feeds, avg.	66.03	\$1.47
32.00	Three richest protein feeds, avg.	58.56	1.70
27.20	Mix. feed "A." No. 1.	63.64	1.57
27.60	Mix. feed "B." No. 1.	66.96	1.49
8.00	Clover hay	124.5	.80
8.15	Timothy hay	124.54	.80
8.10	Mixed C. T.	124.44	.80
5.85	Corn stover	124.79	.80
6.60	Corn fodder	124.39	.80
2.40	Corn silage	118.33	.85
3.00	Corn silage, Wis.	116.67	.85
5.00	Sugar beets	48.2	2.07
3.40	Sugar bt. pulp, wet.	48.24	2.07
3.92	Carrots	48.22	2.07
3.00	Mangles	48.33	2.07

Kent Co. B. W. PUTNAM.

CRITICISM ON BARN PLANS.

I am sending a sketch of my barn plan for Mr. Lillie's criticism. Barn is to be 120 ft. long and 38 ft. wide. The basement 3½ ft. beneath the surface and 5 ft. above, 4 ft. of which is to be concrete, the remainder of 10-inch hollow cement blocks. The second story is to have 16-ft. posts and a hip roof. Will 10-inch cement blocks be strong enough to hold

tical to use it to run milking machine and cream separator, or would it be better to buy a smaller one for that purpose? The basement floor, and also the horse stable floor will be of cement.

Tuscola Co. H. H. Of course, I suppose that H. H. wants my honest opinion with regard to his plan for a barn. In the first place, I would not have the basement 3½ ft. in the ground. In fact, I would not have it in the ground at all. Build the barn above the ground and have the floor at least four inches above the surrounding ground outside. You will make a mistake if you do not do this.

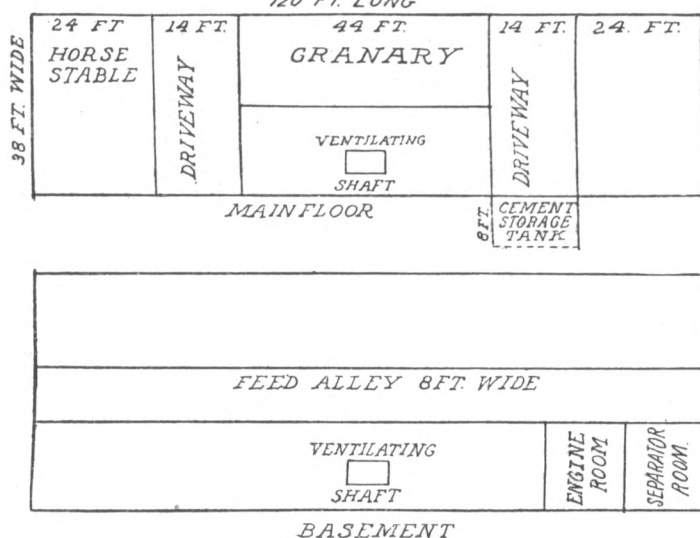
Yes, I think 10-inch hollow cement blocks would be strong enough to hold your building and the hollows in these blocks could be used for pure-air intakes. I think that part of it would work very nicely. But you can have pure-air intakes when you make the building out of lumber.

Now with regard to the number of pure-air intakes and where they should be placed. They should be placed on all sides of the barn, and you want a number of them. You want enough so that when the wind blows fiercely from one direction you can close all the intakes on that side and yet have enough pure-air intakes the balance of the way around the barn to supply your animals with all the fresh air they need. When the wind blows fiercely from one direction it will blow thru the intakes on that side so rapidly that it will cool your barn down on a cold night.

It is not necessary to have the ventilating shaft in the center of the barn. You can put it any place most convenient, just the same as you can the chimney of a house. It doesn't have to be in any particular spot. What you want is a good air-tight shaft that extends up thru the basement, up thru the storage part of the barn and out of the roof, and the higher above the roof the better, because the taller a chimney the better it will draw. Those are the essential things about a ventilating shaft rather than its particular location in a barn. One ventilating shaft is better than two, just the same as one chimney is better than two. If you have two ventilating shafts you are liable to have counter currents, and have cold air come down one instead of warm air going out. If you have only one, and have it of the right size, there isn't any danger of cold air coming down the ventilating shaft, but with two, just as there is with two chimneys in one room, there is liable to be a counter draft. I think a ventilating shaft about 2½ ft. square on the inside would be sufficient to ventilate a barn of this size.

No, the model stall does not bother materially in using a milking machine. Of course, you have to cut an opening in the partition between every two cows so that you can set the machine in this opening. That is all that is necessary to be done.

I see no particular objection to running the separator and the milking machine with the eight H. P. engine. In fact, I do not think it would take very much



up a structure of this kind? I want to use the hollows in the cement blocks, which are 4x12 inches, for intake flues. How many will I need for each side? Where should the ventilating shaft be located? I cannot have it in the center on account of the sling track. Please notice location of shaft in the sketch. If located here it would come out at the puline plate about midway between the ends of barn. Will one such shaft be sufficient, and how large must it be? I intend to put in model cow stalls and would like to know whether they will bother in using a milking machine. I will put a stationary 8 H. P. gasoline engine under main floor to run feed grinder and husker. Would it be prac-

more gasoline to run the eight H. P. engine than it would the smaller one. I have run a 6½ H. P. engine for pumping water and I could not see that it used any more gasoline than did a 3½ H. P. May be it does, some, but I certainly think it would be more practical to use this 8 H. P. engine for this purpose than to have two engines. You can economize time by starting your separator in time enough so as to get thru separating at about the same time you get thru milking. This will lessen the time for running the gasoline engine.

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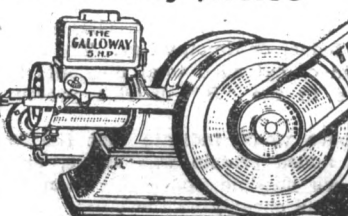
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SOURCES OF BACTERIA IN MILK.

The relation which bacteria bear to the quality and keeping properties of milk is gradually becoming better understood, and with this knowledge has come a demand for accurate information as to the nature of these organisms, the great variety in which they exist and many other facts concerning them. That it is practically impossible to totally exclude them from milk, and that they multiply with extreme rapidity, has been proven over and over again. Dairy men who have had examined for bacteria, milk which had been produced under exceptionally favorable conditions have been astounded at the results. The question most often asked after such an experience is, how did so many of them get into the milk? The answer is not hard to find when the numerous sources of these mysterious organisms are known and the fact appreciated that only absolutely perfect conditions can prevent their introduction into milk. The bacteriologist of the Department of Agriculture has, since the beginning of the present year, issued a most helpful bulletin on this subject of bacteria in their relation to milk, from which we take the following concerning the sources of those organisms which the dairyman is most anxious to guard against:

It has been assumed by many writers that milk is formed in the udder entirely free from bacteria. This has frequently been disputed and is still a matter of some doubt. However, the best authorities agree that milk is bacteria-free when formed, unless the udder is so injured or diseased that there is a direct passageway from the blood vessels to the milk ducts. It should be remembered that an injury so slight that it would escape the most careful examination might be sufficient to allow the passage of bacteria.

Even if the milk is secreted bacteria-free, it is very difficult to obtain it perfectly sterile. Bacteria work their way into the milk cistern thru the opening in the teat and find there conditions under which they can grow and multiply. This growth is ordinarily confined to the lower part of the udder, and the greater number of the bacteria are washed out with the first few streams of milk. Sometimes, however, the growth may extend into the smaller milk ducts, and the last part of the milk will contain nearly as many bacteria as the first.

Inflammation of the udder or fermentation of the milk in the udder rarely occurs, because there is only a small amount of milk held in the udder, and most of the bacteria found there have little or no effect on milk. It is also true that fresh milk, like the blood, contains some substance which has an inhibiting influence on bacteria. This influence is so slight that it is probably of little practical importance, but it may have some relation to the comparatively slow development of bacteria in the udder.

The real contamination occurs after the milk has left the udder. In spite of careful milking, dirt, particles of dust, hairs, even bits of manure from the flanks or udder of the cow, may fall into the milk. All of these things invariably carry more or less bacterial contamination. Manure usually contains large numbers of bacteria, many of them being kinds which produce very undesirable changes in milk; and the dry dust of the stable floor contains great numbers and varieties of bacteria. This dust soon settles, and an open milk pail catches a surprisingly large amount.

But the contamination does not end here. The pails or the cans may not be properly cleaned, and the corners or seams may hold small particles of dirt or sour milk. These impurities are full of bacteria, which quickly find their way into the milk. The cloth thru which the milk is strained may not have been properly scalded, and the bacteria are not only not all destroyed, but have actually multiplied in the damp cloth. When the strainer is used again many of these bacteria are washed out by the milk.

If a cooler is used it may add to the contamination if it is placed so that it catches dust. Finally, the bottles in which the milk is distributed may not have been properly washed and steamed, and thus may become another source of contamination.

The contamination from each individual source may be small, but taken all together it has a serious influence on the quality of the milk. If extraordinary precautions are taken to prevent contamination, the number of bacteria in the fresh milk may be kept down to a few

hundred per cubic centimeter; with careful milking it may easily be kept within a few thousand; with careless milking and handling the number will vary greatly with circumstances and may exceed 100,000.

The bacteria in milk from cows kept in stables may be different from the bacteria in milk from cows on pasture. Bacteria which occur rarely in milk during the winter months may become numerous in the summer, and specific fermentations which are almost unknown in the summer may appear in the autumn or winter.

It should not be assumed that all bacteria are harmful either to milk or to the human system. In fact, many kinds of bacteria will grow in milk for a long time without changing its taste or appearance, while many of the fermentations which make milk undesirable for direct consumption are used in making butter and various kinds of cheese. Very few of the bacteria cause disease or produce poisonous by-products.

ANOTHER YEAR'S RECORD FROM MR. HURD.

I am sending a statement showing the work of my three cows for the year 1908. The total amount of butter made was 1,205 lbs. Of this 1,130 lbs. were sold for a total of \$313.34; 75 lbs. were used at home, which, at 27c per lb. represented \$20.25; sold calves, in form of veal, to the value of \$19.20; cottage cheese to the value of \$31.30 and buttermilk to the value of \$10.25, making a grand total of \$394.34. These are the same cows as represented in a similar report, published in these columns for the preceding year, the total production that year being 1,100 lbs. of butter. I have also added another year to my milking record, making 19 years that I have milked cows twice each day without missing.

Kent Co.

E. HURD.

It gives me great pleasure to present the above year's record from Mr. E. Hurd. This record is remarkable in many ways. In the first place, he received last year \$394.34 from actual sales of the product of three cows, which gave him \$131.44 per cow. That is a splendid showing. Of course, in this he has not taken into consideration the cost of feed. The amount represents the gross receipts. Now, Mr. Hurd is a very old man. To look at him you would not think that he could take care of these cows or milk them at all. It is remarkable what a person can do in this world if he only has a little bit of gumption. It is still more remarkable to find such an old man as Mr. Hurd still possessing this gumption.

Then again, it is remarkable that this man should have a milking record of 19 years, twice each day, without missing a single milking. That is a record, certainly, to be proud of—not only because he has had gumption and enterprise enough to do this, but because he has had sufficient health so that he could. Very few men can say that in 19 years they have not been sick, or at least sufficiently indisposed to prevent their going out and caring for and milking three cows night and morning. That is certainly a remarkable record and I feel like congratulating Mr. Hurd, not only upon his enterprise and gumption, but upon his good health. I also congratulate him upon the record which he has made for his three cows.

ANOTHER EXPERIENCE WITH BITTER CREAM.

I recently saw the question, "What causes cream to taste bitter and how prevent it?" in your dairy columns. I can not tell what causes it but can tell how to prevent it. I had this experience the past winter; also had great difficulty in churning; could hardly get butter. Then I took to scalding the milk which entirely removed the bitter taste from the cream and I could churn in five minutes' time where it took hours before scalding the milk.

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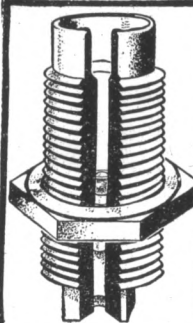


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CURRENT COMMENT.

A Timely Highway Hint. If the reader should take a forty mile drive across the country, as the editor did early this week, he could hardly do otherwise than reflect upon the highway problem in a practical way. While the ordinary country roads are in much better condition than is often the case at this season of the year, yet there is still much to be desired so far as comfort in traveling over them is concerned, to say nothing of drawing heavy loads over them to market, and while the duty of caring for and improving them lies primarily with the highway officers elected in the various townships on Monday last, and the members of the township boards who have directory powers over them, yet intelligent and determined effort on the part of even a few citizens in each township would go far toward a general betterment of country road conditions right now, and in a manner which would greatly improve the efficiency of those roads during the entire summer. One general condition which always applies to nearly all kinds of roads in the spring of the year is deep ruts, worse on the clay than on the lighter soils, but disagreeably prevalent nearly everywhere. Yet this is a condition which can be easily remedied at this time, and with a very small outlay of labor. One piece of clay road noticed in the drive above mentioned had just been gone over with a split log drag, or some other implement that leveled off the surface, filled the ruts and left the track in a condition to soon dry out and to shed water during future rains, so that while adjacent roads are full of ruts and mudholes this particular stretch will be smooth and hard from this time on. It took but a very small outlay in time to fix this piece of road so that it will be a pleasure to travel over it from this time on, while the balance of the road in that community will be in poor condition for half the summer for the lack of similar attention. The advantages to be derived from the use of the split log drag or some similar leveling device have been commented upon in these columns sufficiently often so that every reader should appreciate them, and yet one is fortunate if in a day's travel he finds a stretch of road upon which they have been demon-

strated in a practical way. But such a demonstration is most convincing, and the residents of every township who are interested in the betterment of the roads should give the highway officers of the township no peace of mind until they have leveled and smoothed the rutty roads, and especially the clay stretches, in several sections of the township so that those who travel over them may note the benefit. Failing in this it would be a philanthropic undertaking to construct a log drag and go over a section of the road themselves in order to demonstrate the benefit to be derived from this kind of road work. A day's time will suffice to make a practical demonstration of the results which may be secured in this way with a small outlay of work which will insure a more general demand for such treatment of the highways each spring.

It is interesting to note that at many of the farmers' meetings, whether gathered in the capacity of live stock men, or under the auspices of the farmers' institute, the grange or the farmers' club, the discussion often touches upon bovine tuberculosis and hog cholera, and the means which may be taken to prevent or eradicate these diseases. This is particularly interesting and significant for the reason that practical results are far more likely to come from the discussion of these problems in such gatherings than in medical societies, tuberculosis congresses, etc. This is true for the reason that it is quite difficult, if not impossible, to either enact or enforce laws looking toward the suppression of these evils, unless the movement is backed up by a comparatively strong and united public sentiment. But the very general discussion of these topics among the progressive farmers who attend the meetings of the various kinds noted above shows that public sentiment, among producers of live stock at least, is experiencing an awakening in this particular direction. This fact makes a review of the proposition and its possibilities particularly pertinent at this time, since public sentiment, to be effective, must be based upon the common possession of accurate knowledge of the problems involved.

Unfortunately, a well defined knowledge and understanding of these problems is not a common possession at this time. Even our foremost scientists are not agreed as to the identity of bovine and human tuberculosis or of the communicability of the former to the human family. And again, the practicability of stamping out this disease at a cost which our people could or would afford is a matter of dispute and somewhat general doubt among the practical experts and scientists who have been the closest students of the problem. But in the meantime the disease is admittedly becoming more common, especially in dairy sections and the problem is annually becoming a more imminent and pressing one. The experiments which have been made in other states seem to indicate that the compulsory inspection and testing of cattle would be very expensive and must be followed up for a number of years in order to be effective. But there is a growing feeling that our present Michigan law is not sufficient to hold the disease in check, to say nothing of eradicating it. There is a very general sentiment that there should be a provision made for the compensation of the owners for animals condemned after reaction to the tuberculin test, and some such provision will doubtless be made in an amendment to our present live stock law, without making the testing of cattle compulsory or general. This would be a fair response to the growing public sentiment on the question, without being offensive to any, as would a compulsory law. But in the meantime the owners of live stock can do much toward lessening the spread of this disease by exercising a judicious care as to the health of the animals brought into their herds and by keeping them under proper sanitary conditions. Science has demonstrated that the disease can be cured by proper living if taken in time and the application of the same principles in the care of the live stock, with judicious isolation of suspected cases will do much to check the ravages of the disease until such time as public sentiment becomes educated to its eradication at any cost, provided that most desirable result can be attained.

The general prevalence of hog cholera in the state during the past year, together with the development of the idea of inoculation to secure immunity where the disease is present in the herd or in

the adjacent community has excited a very general interest in the suppression of this too common disease which annually costs the farmers of the country millions of dollars. The success of the serum treatment which has been carried on in an experimental way by the U. S. Department of Agriculture and several experiment stations, including the Michigan station, during the past year, has led to an effort among the organized hog men of the country to secure appropriations in the several states for the manufacture and distribution of the serum at public expense for the extermination of this disease. In Illinois this idea has already taken definite form and a strong effort is on foot to provide for a state laboratory at which the serum and virus used in inoculations for immunity will be made and distributed where needed free of charge. The action of the American Berkshire Congress at its recent session at Lansing, which was noted in the report of that meeting, will doubtless result in similar efforts in other states, while a recent advice from Washington is to the effect that Congressman Lowden, from Illinois, will undertake to secure a liberal appropriation from congress to enable the department of agriculture to carry on the work of exterminating this troublesome disease in a comprehensive manner.

While much of the work which has been done to demonstrate the feasibility of eradicating these two contagious diseases which are now so common among the live stock of the country and which cause such large losses annually has been of an experimental nature, yet it has been progressive work, and it would seem that with the co-operation of the producers and packers, the state and national governments, with the loyal backing and support of the consumers of the country, may be able to evolve a plan by which the source of infected stock may be traced in an inexpensive way, and the control if not the eradication, of these diseases be accomplished at a cost within the ability and willingness of people to meet. Until such time, the problem will continue to become a more important one, as well as one more difficult of solution.

The dry farming principle, so-called, which is causing no little boom in the agricultural lands of the semi-arid regions of the west, may be too highly eulogized in many of the reports which reach the eye of the reader in more favored sections of the country, yet there is no question that its introduction has made agriculture a more profitable business in a large territory with a sparse rainfall. The principle is the same as that which is employed by our farmers in conserving the moisture for the use of cultivated crops by maintaining a dust mulch which will prevent its rapid evaporation from the soil, except that this process is kept up almost the year around instead of a few weeks during the growing season. By this means the soil is kept in a condition to absorb and retain what water falls, delivering it up as needed to the growing crops. The interest in this method for the semi-arid country is attested by the attendance at the recent dry farming congress at Cheyenne, which was much larger than at either of the similar annual events which preceded it. That the principle may hold a profitable interest for the farmers of the more favored humid regions seems entirely possible. Our dry season of last year should teach our farmers that it will pay to conserve all the moisture possible for the use of the growing crops, and experience should teach them that it will pay to begin this process as early in the spring as possible. During recent years our rainfall has been ample, but within the memory of even the younger generation of farmers there has been seasons when the rainfall was both scant and poorly distributed. In such seasons the farmer who conserves the soil moisture from the start will suffer the least. That the dry farming principle may help them to this end seems entirely probable, indeed it is in line with the experience of every farmer. All know that the land that is plowed early and worked frequently is much higher in its content of moisture at planting time, if the season be dry, than the land which is not plowed until just before the planting time arrives. But it is, of course, impossible to plow all the land early. However, the plan of disking the stubble ground which is not to be plowed until later in the season will be an application of the dry farming principle, as would also the disking of the stubble land to be plowed for

fall grain immediately after harvest. In like manner the prompt packing and harrowing of the freshly plowed ground and a harrowing after each heavy rain will be following out the principle in a manner profitable to the Michigan farmer. The principle is not a new one, but the discovery of its successful application to a country with a very small rainfall should teach the farmers in the more favored sections of the country a profitable lesson in the husbanding of needed moisture for the growing of profitable crops, even in the driest kind of a season. If the principle is applied to our conditions intelligently, there will be few cases in which spring planted seeds will fail to germinate for lack of sufficient moisture, as they did in many cases last year, thus spoiling the chances for a profitable crop at the outset.

If we producers were but gifted with a degree of foresight which would enable us to see in advance the future demands of the market, so that we would be prepared to supply them to the extent of our ability in seasons of scarcity and high prices, our road to wealth, or at least a competence would be much easier. That we could approach this happy condition in some lines much more closely can hardly be doubted by one who gives the subject a little thought, and yet it is manifestly impossible for us to foresee the conditions which will prevail in future years with a degree of accuracy which will make it at all certain that we can better our financial condition by abandoning one line of production and taking up with another in order to supply some demand which our fancy or our judgment tells us will exist by the time we have our product ready for the market. Then, too, the market is always looking for a product with quality, and generally speaking, the choice product will command a premium which will make its production reasonably profitably under average conditions.

This is an argument for stability in our production, or at least for a gradual rather than a radical change in our lines of production. Experience is a good teacher and we can produce a better article after years of experience in its production, and at the same time we can produce it more economically, since experience will enable us to produce it with a minimum of outlay. It is a matter of history that every conceivable product has its seasons of good and poor demand, depending upon the available supply, a shortage in which naturally stimulates production in that line until the supply equals the demand and prices fall in a corresponding degree. These periods come more frequently in the products which are quickly raised and may be placed on the market in a minimum of time, but they come none the less surely in the products which require more time to produce and market. An illustration of this fact is to be found in the short supply and keen demand for horses which exists at the present time. But a few years ago horses were cheap, and those of a common sort were a drug on the market. It was freely predicted that the advent of the automobile and the power truck had ruined the business, and the production of horses was neglected, notwithstanding that there was a fairly good demand for good individuals, of which there is never a surplus. But with the gradually increased values which followed there was little increase in production, at least not enough to keep pace with the increased demand, and with the present scarcity and high range of values came a sudden awakening to the fact that horse breeding might be a profitable business, and straightway owners of common mares are breeding them, thinking to reap a profit thereby, and others are purchasing costly breeding stock with the same object in view.

In order to engage in this line of production many will doubtless sacrifice the work of years in herds or flocks which they think are not paying them sufficiently well, probably to find when they have their common horses ready to market that there will be a surplus of this kind and a shortage in the line which they dropped to produce them. In this respect the American farmer follows, rather than anticipates market demand. It would have been much more sensible to have secured a few good mares when horses were cheap in anticipation of the rise which was sure to come. Not but that the production of good horses is likely to yield a good profit in the future, for it is entirely likely that such will be the case, but in following the market demand in this line of production we

should have a care that we are not overlooking a demand which we could profit by in the lines which we sacrifice in order to take it up.

What is true in live stock production is true in other lines of production in which reactions are quicker for the reasons given above. High markets always stimulate production in any line, and in quite a proportion of cases the men who are constantly changing their lines of staple production in their efforts to follow a changing market demand find that the strongest demand is generally for something which they haven't got. It is entirely unsafe to base predictions of market demands upon a single year, particularly in the lines in which the available supply can be quickly augmented. The wise farmer will study statistics of production and market values for a series of years and stick to the lines which he finds to pay the best average profit for several years.

HAPPENINGS OF THE WEEK.

Foreign.

The French tariff commission has elected to make several concessions in the tariff schedule that will give increased advantages to the United States. The metal and textile schedules are the ones chiefly concerned. Agricultural machinery duties are to be reduced from what they were under the old regulations.

Owing to the failure of the President of Nicaragua to adjust certain claims the diplomatic relations with this country have reached a climax, and it is anticipated that the minister representing that nation at Washington will receive his passports soon.

Ex-President Roosevelt arrived at Naples, Italy, Sunday and will be received by officials and members of the royal family on Monday.

A French scientist has announced that in his opinion the Hertzian wave will, when it becomes developed into an usable form, make war impossible. The waves will penetrate walls of masonry three feet thick and destroy everything in their passage. As yet the waves are difficult of control and the apparatus necessary for directing them is unwieldy.

The Greek cabinet recently sent in its resignation, but the king has persuaded the members to withdraw the request.

The government of Chili has commissioned a representative to visit the United States upon an important mission the nature of which has not been disclosed.

Dr. Penna, minister from Argentine Republic to Italy has accepted the request from Venezuela to act as arbitrator of the differences between Venezuela and United States.

The Serbian government has notified Austria that she stands ready to make a commercial treaty.

The labor situation in France is approaching a revolutionary state. Now that the unions are aware of the power they have in their hands by being able to control public corporation employees, they have become more bold, and the administration is viewing the matter with much apprehension. Sunday there was held a large mass meeting in Paris where it is said that 10,000 persons were in attendance. Speeches against the republic and parliament were cheered by the listeners.

Plans have been completed for the sending of two Japanese battleships to San Francisco where their officers and men will be given a royal reception in exchange for the courtesies extended the American battleship fleet while on its way around the world.

The American soldiers left in Cuba after the evacuation of the American governor, left the island on the first of April. The impression among many is that the Cuban government will not be able to carry on its political organization and that it will become necessary for the United States to eventually annex the island.

During the month of March there were 61 new cases of bubonic plague in Ecuador of which 28 resulted fatally. There were, also, 108 yellow fever cases and 50 deaths reported therefrom.

National.

A new naturalization law has been adopted by the Chinese government which provides that no Chinaman can become the subject of a foreign country and further that all Chinamen who have declared themselves citizens of other lands are still Chinese.

It is estimated that \$3,000,000 worth of property was destroyed in Fort Worth, Texas, by a fire which started Saturday. By Sunday afternoon 281 of the finest residences of the city were destroyed. State troops were sent to the scene to protect property and to aid the sufferers.

The big coal companies of the country are about to establish four stations for the training of miners in rescue work. This move is based upon the finding of the national geological department.

The officers and men of the Japanese training squadron are now being entertained at Honolulu where the house of representatives moved to extend the courtesies of the government to the Mikado's naval men.

The early returns from last Monday's election show that twenty of the twenty-seven counties that voted on the local option question declared against the licensed saloon and 568 saloons will have to go out of business May 1st as the result.

The coal strike in Western Canada became general last Friday.

The Salvation Army is to undertake a new venture in providing for an university to train workers for the work of the organization.

As a result of the limitation placed upon the amount of new insurance business that can be done in one year in

New York state 1,000 insurance agents have been notified by one New York company that their services will not be required after May 31.

An epidemic of scarlet fever has broken out among the crew of the battleship Missouri now at the Charleston navy yard.

A program for systematizing the designs of the United States notes and coin certificates has been accepted by the authorities. The purpose of the change is to discourage counterfeiting.

CROP AND MARKET NOTES.

Livingston Co., March 31.—The weather for March was very mild and the whole winter has been one of very mild weather. Stock of all kinds has wintered well. Horses are scarce and very high in price, selling from \$150 to \$250 a head. Farmers are busy getting ready for the spring work. Wheat and clover have not wintered very well owing to a lack of snow. Rye looks good. There will be a large acreage of beans grown this year on account of the high prices that have prevailed during recent months. Market quotations are as follows: Wheat, \$1.15; beans, \$2.20; rye, 78c; corn, 80c; oats, 54c; hogs, \$6.25; butter, 18c; eggs, 17c.

Emmet County.—During the first three weeks of the month sleighing generally prevailed. There has been more snow lying on the fields during this time than at any other period during the winter. No spring birds have yet arrived, tho the indications are that the spring season is near at hand. Eggs are worth 20c at store and dressed poultry 16c at the markets. On the whole it has been a favorable winter for the farmer; no severe cold and not enough snow to make it disagreeable getting around.

Kent Co.—Prices in the local market places are unchanged except eggs. Eggs are off 5c. Auction sales are not quite so numerous as they were. The average farmer has become weary of spending a day or two each week to visit his neighbor and swap old wornout drags, cultivators, plows, wagons, etc. However, there is still one farm implement which sells readily, the new milch cow. The cream separator has wrought a change on all Michigan farms and 10c farm-made butter is a thing of the past. Herein, also, lies the secret of high priced cows. By the use of the cream separator 50 per cent has been added to the price of the cow and to her product also. Shall we wonder, then, wherein lies the loadstone which attracted the crowds at the annual farm sale? Fall grain looks brown. Health of the plants cannot be foretold.

Ottawa Co.—Farmers who have any maples left are making syrup, which is being sold for \$1.25 to \$1.50 per gallon. As it thaws more or less nearly every day, and freezes hard at night, it is having a bad effect on wheat, because there has been no snow to protect it for some time. A number of farms have changed hands lately, at prices ranging from \$65 to \$75 per acre. Cows and horses have brot good prices at the numerous auctions. Cows are selling at from \$35 to \$50, and horses from \$150 to \$200. A carload of hogs and calves will be shipped from this section. The price paid for hogs is 6c live weight. Meats of all kinds are high but eggs are getting cheaper. The roads are in fair condition, but farmers in this section have but little teaming to do. Some are well satisfied with the new road law, while others are not.

Saginaw Co., April 1.—The first of April finds first-class weather and good crop conditions. Much necessary moisture came in March snows, and now spring seems to have opened. Gardens are being plowed. Water is running off well, and fields and roads rapidly drying up. The open winter has been hard on wheat and clover. New seedlings look very poor. But all stock has wintered well and is coming out in fine condition. Prices are high. Milk cows are in good demand, fair ones bringing, at auctions, around \$50. A large acreage of sugar beets has been contracted during the winter.

SAVE YOUR FRUIT.

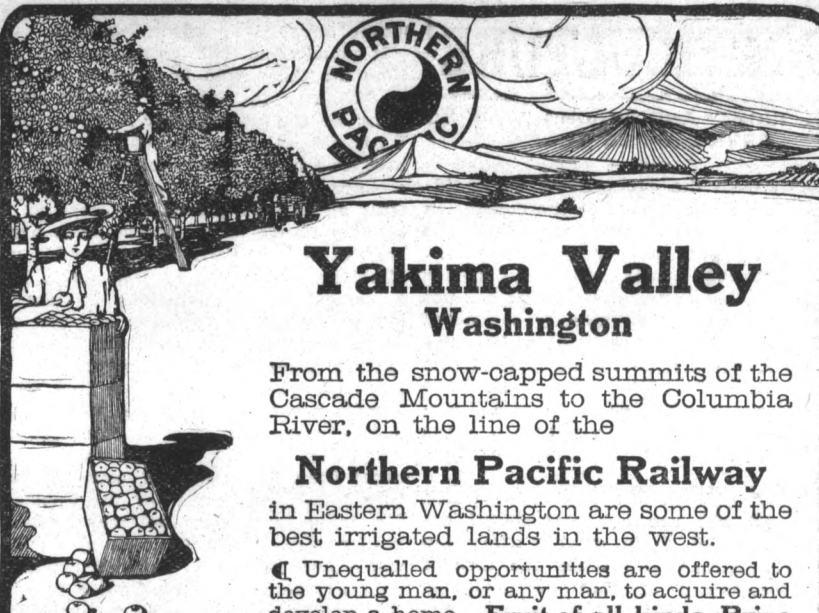
Use Disparene, a pure arsenate of lead in paste form, the best preventive against all leaf and fruit eating insects, codling moth (both broods), canker worm, tent caterpillar, grape insects, potato bugs, cucumber beetles, etc. It mixes easily with water, does not harm the foliage and rain will not wash it off. Use 2 to 3 lb. of Disparene to 50 gallons of water. Prices: 2 lb., 40c; 5 lb., 90c; 10 lb., \$1.70; 25 lb., \$4.25; 100 lb., \$15. Disparene is not a fungicide.

Pyrox is a combined insecticide and fungicide, kills codling moth, cankerworm and all leaf-eating insects, and prevents apple scab, pear blight, rusts, etc., on fruits or flowers. It is a combination of arsenate of lead (Disparene) and Bordeaux mixture. Ten lb. of Pyrox makes 60 to 100 gallons of spray. Prices: 5 lb., \$1; 10 lb., \$1.75; 25 lb., \$4; 100 lb., \$15.

Boxal is a combined fungicide and insecticide prepared specially for potatoes, kills the bugs, prevents blight and prolongs the life of the plant, increasing the yield. Use 10 lb. to 50 gallons of water, which will spray one acre of potatoes when vines are 6 inches high. Spray again in two weeks and afterwards as may seem necessary. Prices: 5 lb., \$1; 10 lb., \$1.75; 25 lb., \$4; 100 lb., \$15.

Disparene, Pyrox and Boxal stick to, but will not burn, the foliage, are not washed off by rain and upon this account are cheaper to use than other preparations. They are prepared ready for use, by the additions of water. All prices are F. O. B. Cincinnati, O., and goods can be furnished only in packages of the sizes mentioned. Shipped by freight or express. Get your neighbors to order with you, take advantage of the lower prices upon the larger packages, and save in delivery charges. Descriptive circulars free. Send all orders to

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HORTICULTURE

THE RIGHT AND WRONG WAY TO PRUNE APPLE TREES.

Views from the car window while riding thru the state leads to the conclusion that a few suggestions regarding the pruning of apple trees may be in order. Quite probably considerable pruning has been done, but there is much that has not been done—and some already completed might much better have been left undone. It would appear that some of the simple rules for doing this work have been misunderstood, so that some directions along the line of how not to prune may be as necessary as those telling how to do it.

A very common error, and one which nearly all who are not professional orchardists make, is in cutting away the lower branches and running the tops of the trees away up into the heavens. Such a manner of pruning is most objectionable from every point of view. It is now admitted that good fruit cannot be grown without spraying, and in order to do this work it is absolutely necessary that the tops of the trees be kept low enough so that all parts of the trees may be reached with the spray liquids. Some trees that I have seen lately are trained so high that the lowest bearing branches are fully 20 feet from the ground. In such trees it is only possible with the ordinary spraying outfits to reach the very lowest limbs with the spray. Such high trees are more exposed to the force of the winds and are more likely to be blown over or to lose their fruit than those which are kept closer to the ground. The long bare trunks and limbs are open to the direct rays of the sun and are liable to injury from this cause, and the sap has an unnecessarily long distance to traverse before reaching the foliage and bearing branches.

Had the process of pruning been reversed and the upper limbs cut away instead of the lower ones, the plan would have been more rational. It is quite probable that in some instances the earlier pruning had been neglected and the tops allowed to grow so thick that the under limbs were shaded so that they died, and in such a case of course the only alternative is to cut out the dead limbs; but if those who now have orchards growing will anticipate this result and will keep their trees sufficiently open so that the lower limbs may have a chance for their lives they will add much to the life as well as to the productivity of the trees. At the very most those long bare trunks with great holes rotted in them where large limbs have been cut away can never be made very thrifty or profitable.

Another mistake made by many is in cutting away too large branches thru the tops, thus leaving large openings of a size large enough to drive a herd of cattle thru. While it is important that the tops be sufficiently open so that the sun may reach all parts of the tree at some time during the day, yet such large openings are not called for and they reduce the bearing capacity of the trees.

Yet another error is found in too severe pruning at one time. It is not uncommon for a man who has neglected his orchard to be seized with a spasm for pruning and go in and reduce the trees to what he considers the proper condition at one fell swoop. I knew a man to so attack his orchard not long ago, and an old fruit grower remarked that it would be three or four years before he would secure a profitable crop, and such proved to be the case. At one time the writer rented an apple orchard and gave it a severe pruning, followed by cultivation, and the trees cast their fruit, the blossoming full. Other orchards which were handled more moderately bore good crops. Such results may not always follow but such severe pruning is hazardous.

The following directions for pruning apple trees may be quite safely followed in the case of trees that are reaching maturity and largely with all fruit trees as well: Keep the tops as near the ground as is consistent with proper cultivation of the soil; cut away as few large limbs as possible; prune moderately and annually; keep the tops sufficiently open so that the sun can shine in and so that the spray liquids may be forced to all parts of the tree, but avoid very large openings; when the trees have reached a size as large as can be covered with the spray liquids then practice

cutting back rather than to encourage a larger outward or upward growth.

It would seem that the present is a good time for those who have apple orchards in Michigan to begin to consider something of the possibilities in those trees. With thousands of acres of the very best land in the state occupied with these orchards, capable of growing as fine fruit as can be grown anywhere in the country if not in the world, with apples selling higher than oranges and with Michigan importing apples, surely such a conditions is anomalous to say the least. An apple orchard set two rods apart contains 40 trees to the acre. For mature trees of good bearing varieties two and one-half barrels per tree, or 100 barrels per acre, is not an unusual annual average for trees that are properly cared for. Such a yield is no more unusual than 60 bushels of corn per acre. One dollar per barrel for the apples on the trees is a very ordinary price for good apples. The apples, then, would be worth \$100 per acre, while 60 bushels of corn at the present high price is worth \$45. And the expense of caring for the corn is greater than that of growing the apples.

Allegan Co. EDWARD HUTCHINS.

GETTING READY FOR THE CELERY CROP.

It is none too early to begin preparations for the celery crop. As we have not always been successful with plants obtained from others, we prefer to grow our own from carefully selected seed. There are so many varieties of celery, each possessing merit, that one who has had but little experience in growing this crop, is rather at a loss to determine the best. This, however, depends on what your market demands, as not all markets are fond of the same sort. While one market prefers the pure white stalk, another calls for a cream or golden tint.

Among the earliest celery, the variety which has been our heaviest seller and commanded a higher price than any other is the "Myers Quick Growing." This is a new strain of "White Plume" celery, which has been improved for several years until we now have in this variety the earliest celery known, being ready for market fully two weeks earlier than any other kind.

In size and habit it is also different from the old "White Plume" resembling somewhat the "Golden Self-Blanching," but is more stocky and throws out from eight to twelve hearts.

"Golden Self-Blanching" and "Winter Queen" we consider very fine varieties, but the former is with us as well as many others, a slow grower, or an uneven one and more subject to blight than many others. This matter of blight should receive particular attention and after a field or plot has become badly affected, it is wise to plant it to some other crop for one or two seasons. Our own and our neighbors' experience has shown that even if the plants are removed from the field, particles of the dried or blighted leaves have fallen to the earth and eventually became a part of it, and thus the blight bacteria are propagated. It is not a particularly new theory, but it is a true one, that very frequently blight starts in the seed bed among the young plants before removal to the main field; therefore, special care must be used to grow strong, robust plants and as rapidly as possible. In selecting a location for this young plant bed, it is necessary to keep the question of moisture in mind, for a location which is apt to dry out will seriously retard the growth or ruin the plants altogether. Quite too often it is the condition in which the plants are affected by blight.

Just as early as the ground can be worked easily prepare the plot where the celery seed is to be sown, making it very rich with well rotted manure. That from the horse and cow stables mixed is the best, and it is imperative that it is in good condition so that weed seeds will not be numerous; otherwise they might choke out the tiny celery plants. The soil for this bed can hardly be made too rich, but as stable manure contains nitrogen greatly in excess of the minerals, potash and phosphorus, we apply along the rows, when the plants are three or four inches high, a dressing of commercial fertilizer containing fully 10 per cent actual potash and 7 per cent or 8 per cent available phosphoric acid. This enables the plants to make a sturdy and rapid growth, which makes them practically proof against blight.

The time is not too early now to prepare, so far as fertilization goes, the

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Gentlemen: We believe Rex Flintkote is the best roofing on the market. We hear nothing but praise of it from our customers who are using it. Our sales are increasing all the time. We have all faith in it and recommend it to every one.

Yours very truly,
REMER BROS.



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Gentlemen: We have handled Rex Flintkote Roofing for seven years and have yet to find an unsatisfactory roll. We have had experience of both Rex and other roofings on our buildings, and find nothing as good as Rex.

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Sirs: Since our first sales of Rex Flintkote, ten years ago, we have investigated nearly every other brand, and now sell Rex Flintkote only, as it gives satisfaction and our customers always buy it again.

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THE LOWE BROTHERS PAINT STORE.

Dayton, Ohio, February 15, 1909.

Gentlemen: When we decided to add prepared roofing to our line, the opportunity presented itself to acquire the agency of J. A. & W. Bird & Company's Rex Flintkote Roofing. We clinched the proposition as soon as presented, knowing this line, through our previous experience in the sale of prepared roofing, to be the best on the market.

Yours respectfully,

THE LOWE BROTHERS PAINT STORE COMPANY

Rudolph Roemhildt, Treasurer.

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and the name of our nearest dealer. The book gives interesting and valuable information about roofs and roofing that every house owner should know. The samples are for you to test. They will speak for themselves. Write to-day.

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Kills Potato Bugs

Complete protection against the insect pests that eat up the profits of your potato field can only be secured by the use of **PURE Paris Green**. Common bulk Paris green often contains too much arsenious acid, and instead of killing the bugs it burns and stunts the growth of the plants. Herrmann's Hi-Grade Pure Paris Green is the most effective of all insecticides, yet it will not burn the most tender foliage. So watch out!

When you buy an insecticide, ask for

POTATO BEETLE

Herrmann's HI-GRADE PURE PARIS GREEN

It is guaranteed to conform with each and every regulation of the Agricultural Department of the United States Government and the agricultural colleges of the various States.

Fewer applications needed—therefore cheapest to use.

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The Gasoline Engine that combines **QUALITY, DURABILITY and ECONOMY**. A perfect farm power. It will lessen your work and increase your income. It will pump water, grind feed, churn, run a separator, saw wood, bale hay, shell corn and is adaptable to many other purposes. In Stationary from 3 to 50 H. P., Portables, all sizes. Send for our Picture Book Catalog—Free.

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For our Fertilizer in every neighborhood in Michigan.

We will ship to responsible parties on a consignment contract; that is, the agent only pays for what he sells. We will take farmers' notes for pay.

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YOUR potato bug crop will be a good deal smaller, and your potato crop larger if you use C T Raynolds & Co pure Paris Green and apply it at the right time and in the right spot—where the bug is.

There'll be less waste and more result—because it's all pure Paris Green, not adulterated.

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Use Devoe pure paints for house, barn, wagons and implements.

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Make them pay by using the machines that really do the work—

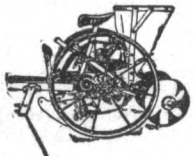
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There's nothing in potato machinery up to

ASPINWALL EQUIPMENT

Write for copy of our free book telling how to make money, growing potatoes.

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439 Sabin St., Jackson, Mich., U.S.A.
Pioneer Makers of Potato Machinery



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Deming Spray Pumps are the most carefully, skillfully, hand-fitted pumps made—right there is the main reason they never fail to run easily with little wear. 24 Varieties. Catalogue with Spraying Chart FREE. Add 4 cents postage for guide book on Spraying.

THE DEMING COMPANY,
705 Depot St., Salem, Ohio.

SPRAY Your Fruits, Crops, Poultry Houses, and

do whitewashing with The **AUTO-SPRAY**. Factory price and guaranteed to satisfy. Fitted with Auto-Pop Nozzle does the work of three ordinary sprayers. Used by Experiment Stations and 300,000 others. We make many styles and sizes. Spraying Guide Free. Write for book, prices and Agency Offer.

The E. C. Brown Co.
32 Jay Street, Rochester, N. Y.

SPRAYING FRUIT TREES

is no longer an experiment, but a necessity. Prevents wormy fruit by destroying all insect pests and fungous diseases. Every farmer, gardener, fruit or flower grower should write for free catalogue, describing 21 styles of Spraying Outfits, and containing a full treatise on spraying fruit and vegetable crops, and much valuable information.

WM. STAHL SPRAYER CO., Box 108 Quincy, Ill.

DeLOACH 3 1/2 to 200 H.P. SAWMILLS

STEAM, GASOLINE AND WATER POWER PLANERS, SHINGLE MILLS & CORN MILLS
WE PAY THE FREIGHT.
SEND FOR CATALOGUE.
DeLoach Mill Mfg. Co., Box 357, Bridgeport, Ala.

Agricultural Lime

and mode of applying.
WRITE US.

THE WOODVILLE WHITE LIME CO., Toledo, Ohio

PATENTS Watson E. Coleman, Patent Attorney, Washington, D. C. Advice free. Terms low. Highest ref.

field where the celery plants are to be set. Heavy applications of rotted manure can be applied and the spring rains will help to incorporate the elements of fertility into the soil. We find the results much more satisfactory when we take up the work thus early. When the plants are set and growth has well started, we apply along the rows the same commercial fertilizer used on the seed beds, never less than half a ton per acre, often more. The nitrogen is not immediately available, but continues its good work when fairly begun until the end of growth. We apply nitrate of soda, 150 lbs. per acre for directly available nitrogen. This is made very fine and scattered also along the rows about the time the other mixed fertilizer is applied. We divide this 150 lbs., using only one half at a time and applying the rest about three weeks later. To many persons the amount of fertilizing material used will seem enormous, but an extra fine celery commands a very high price. It pays handsomely to care for it, with this price in view. Especially during the holiday season a grower may demand and will get almost any price for crisp, firm celery free from stringiness and of a superior fine flavor. Sufficient moisture and well balanced fertilization will produce such a choice article. No matter what care we bestow, or how we hill it, or trench it, if the plants are not provided with the food they need, success will not be ours. An abundance of nitrogen is needed for luxuriant growth, but potash and phosphorus must also be present in plenty to make the growth strong and solid. Abundance of well balanced plant food is the secret of long-keeping celery.

This is the method we follow, and shipments of our early celery are often in the best possible shape as late as the middle of December.

Ohio.

E. A. SEASON.

SOME QUERIES AS TO SAGE CULTURE.

(a) Would sage be a profitable crop to grow? (b) Where would a market be found for the crop? (c) Are there different varieties, and what is the best? (d) What kind of soil will give best results? Please answer thru Michigan Farmer and oblige a subscriber.

Berrien Co.

J. H.

(a) Sage is most extensively used of all the medicinal or pot herbs, and there ought to be money in growing it, provided an outlet can be found for the crop, which will be discussed in the second question. Having personally grown considerable of it, I would advise growing it in a small way at first, or until the market problem was well in hand. (b) There is demand for it the year round as nearly every family in the land uses it, but to reach this market requires to handle it at retail. In large cities this demand is always open and especially with butchers and sausage manufacturers. The better market for large quantities, however, is among the condiment and ground spice manufacturers. By a little effort thru inquiry or otherwise, you can easily locate many of these men in Detroit or Chicago and certainly they require and use quantities of it. (c) In the common sage there is little if any, difference as to variety. All the seedsmen advertise the seed sold by packet, ounce or pound; and once started, with proper precaution you can afterward increase to any extent by root division and transplanting. Holts Mammoth is an exception to the ordinary sage and is said to be far and away ahead of the common sort. Personally I have not grown it but certainly should were I in the business. This sort does not go to seed and the plants must be relied upon to furnish a starter. (d) Many of the aromatic and pot herbs give better quality on thin, light soils; but for sage, any good ground not too heavy will answer.

As to culture, make the soil very rich and thoroughly work it into fine and perfect condition. Sow the seed in drills sixteen to eighteen inches apart. Sow early to give all the time possible for growth, when plants are well up thin to sixteen inches in the row. Give clean and thoro culture to keep out weeds and grass. Just as it is coming into blossom cut the tender shoots and leaves, with it in the sun, tie into small bunches and cure it in the shade.

The cutting time is very important as it loses much vigor after coming into full bloom. So also is the curing; it must be cured quickly by brisk air circulation rather than sun exposure, as that will discolor it. It is perennial and will live thru the winter; but the following spring

the roots should be divided and transplanted which will give a better crop the second year than the first. It requires four to five pounds of seed per acre. If Holts Mammoth is desired, the plants are sent by mail.

Wayne Co.

J. E. MORSE.

CROWN GALL OF THE APPLE.

Crown gall is a term applied to certain warty outgrowths or excrescences upon the apple, pear, peach, raspberry, etc., forming chiefly on the parts below ground. On the apple tree growths are more apt to occur on grafted trees at the union of the root and the cion, but they may form at any place where the roots have been injured in transplanting, etc.

It has been recently demonstrated that crown gall is caused by a specific bacterial parasite. It is very omnivorous in its tastes, being able to cause warty outgrowths or galls on a surprising number of different and unrelated species of plants when these plants are inoculated with pure cultures of the organism. Galls have been produced in this way upon the following named plants: Peaches, almonds, apples, hops, Paris daisy, walnut, grape, radish, tomato, raspberry, etc.

Not long ago the Maine experiment station purchased 60 apple trees from a nurseryman. The package in which they were shipped bore a tag stating that the orchard from which they came had been officially inspected and found free from disease. Three out of the 60 trees or 5 per cent of the shipment had well developed crown galls upon them. This experience indicates that every orchardist should very carefully inspect all stock which he purchases for setting this spring. All trees showing evidence of crown gall should be either returned to the shipper or burned, and future orders placed with nurserymen who can and will furnish trees free from disease. Under no condition should trees be planted which show growths of this kind upon the roots, for not only will it result in an unthrifty and unprofitable tree but it will also infect the soil with the crown gall organism and endanger other plants.

Maine Exp. Sta. C. D. WOODS.

GRAND TRAVERSE FRUIT REGION.

Now that we have a car ferry across the lake to Manistique the wonderful possibilities of shipping fruit in the great fertile regions of the northwest is immense and fortunes can be made. I am 76 years of age and may be able to send carloads there yet. Even the Crosby peach is frost proof and has never been winter killed, and this is 45 degrees north. I became acquainted with a pioneer Lake Erie grape grower who has a vineyard of 68 acres and who ships annually carloads of grapes to Marquette, Mich. This suggests that the demand here is for more than is being raised. I have also observed that grapes raised in the south cannot be kept long on account of the rotting. Hence, no competition to our section can come from there.

In an early date in northern Michigan I planted the Wagener apple and the fruit was a marvel of beauty, free from insect pests; but now the old trees cost about \$40 per acre to spray them and I find the hardier peaches and grapes far more profitable. Even north of Lake Antrim a man is making a fortune raising Fitzgerald peaches. I do not know whether this will make a wine region or not, but as in the upper peninsula there is a market large enough to consume all the eating grapes than can be grown, the outlook is very encouraging.

Gd. Traverse Co. HENRY VOORHEIS.

TOOK TREES THRU IN FINE SHAPE.

J. C. Murfey, Laporte, Ind., writes: "Pyrox took my fruit trees thru in fine shape and even at this date (November 1st) the leaves are all on and as perfect as ever. It does stay on better than any previous preparations I ever tried."

"Pyrox" does not wash off the foliage like Paris Green, but sticks like paint thru even heavy rains. We endorse it. Address this paper or Bowker Insecticide Co., Boston, Mass.

When hauling out the barnyard manure, do not forget the orchard. A well-fed tree makes a much more promising proposition for spraying and pruning than an under-fed one. Plenty of food encourages the tree into luxurious bearing, and the farmer to give better care. Both prosper thereby.

Welcome Words to Women

Women who suffer with disorders peculiar to their sex should write to Dr. Pierce and receive free the advice of a physician or over 40 years' experience—a skilled and successful specialist in the diseases of women. Every letter of this sort has the most careful consideration and is regarded as sacredly confidential. Many sensitively modest women write fully to Dr. Pierce what they would shrink from telling to their local physician. The local physician is pretty sure to say that he can not do anything without "an examination." Dr. Pierce holds that these distasteful examinations are generally needless, and that no woman, except in rare cases, should submit to them.



Dr. Pierce's treatment will cure you right in the privacy of your own home. His "Favorite Prescription" has cured hundreds of thousands, some of them the worst of cases.

It is the only medicine of its kind that is the product of a regularly graduated physician. The only one good enough that its makers dare to print its every ingredient on its outside wrapper. There's no secrecy. It will bear examination. No alcohol and no habit-forming drugs are found in it. Some unscrupulous medicine dealers may offer you a substitute. Don't take it. Don't trifle with your health. Write to World's Dispensary Medical Association, Dr. R. V. Pierce, President, Buffalo, N. Y.,—take the advice received and be well.

PROTECTION BRAND

ROOFING

"The Roofing without a Nail Hole."

Will not leak at the joints. Our Method of Laying Protection Brand Roofing makes your entire roof one piece. Anyone can lay it.

Send for free samples and booklet.

ASPHALT READY ROOFING CO.

DEPT. D, 80 PINE ST., NEW YORK, U. S. A.

POTATOES 60 cts. a bu.

See Salzer's catalog page 129. Largest growers of seed potatoes and early vegetables in the world. Big catalog free: or, send 15c in stamps and receive catalog and 1000 kernels each of onions, carrots, celery, radishes, 1500 lettuce, rutabaga, turnips, 100 parsley, 100 tomatoes, 100 melons, 1200 charming flower seeds, in all 10,000 kernels, easily worth \$1.00 of any man's money. Or send 20c and we add one pkg. of Earliest Peep O'Day Sweet Corn.

THE SALZER SEED CO., LaCrosse, Wis.

OATS

Sensation: Great yielder. (Weigh 40 lbs. per bushel). Also Seed Corn, Potatoes, Alfalfa and Clover Seed. Samples and catalog free. THEO. BURT & SONS, Melrose, Ohio.

SEED OATS—Great Russian variety. Silver Plume, no smut or rust, out yields other kinds 10 to 20 bu. per acre. \$1.00 per bu., bags free. J. C. BUTLER, Portland, Mich.

LIME AND SULPHUR LIQUID made by the CLARK CHEMICAL SPRAY CO., Findlay, O., is the one absolutely right. Send for Booklet.

True Catalpa Spec. & Bl. Locust, healthy 1 yr. trees per bu., f. o. b. here. New grain bags free. Yielded me last year 80 bu. per acre. No smut. WM. SKILLMAN, Oxford, Mich.

MILLIONS OF TREES, PLANTS, VINES, ROSES, ETC. The oldest, largest and most complete nursery in Michigan. Send for catalog. Prices reasonable. Agents wanted. I. E. IGENFRIEZE SONS CO., The MONROE NURSERY, Monroe, Michigan.

PEACH TREES, 3c; Apple, 5c; Cherry, 12c. All kinds of fruit trees and plants. Get cata. ERNST'S NURSERIES, Moscow, O.

1,000 BU. SILVER MINE seed oats at 90 cents per bu., f. o. b. here. New grain bags free. Yielded me last year 80 bu. per acre. No smut. WM. SKILLMAN, Oxford, Mich.

Seed Corn—Reid's Yellow Dent, Imp. Early Learning and White Cap Yellow Dent, \$1.50 bu. Also Sensation Oats that weigh 40 lbs. bu. Catalog and samples free. THEO. BURT & SONS, MELROSE, OHIO.

Onion Seed—We are extensive growers and dealers in all the prominent varieties. Write us. Schilder Bros., Chillicothe, Ohio.

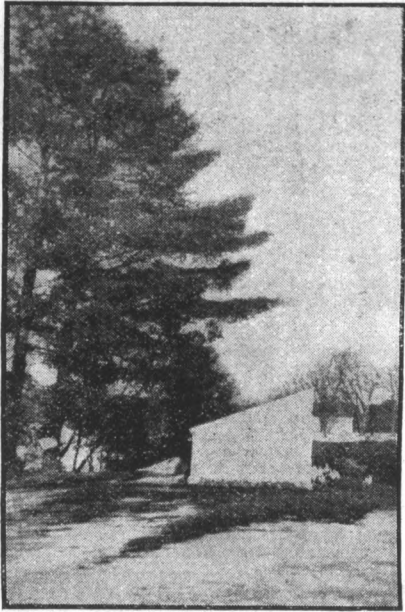
DAHLIAS. 20 kinds (my selection) \$1.00. Satisfaction Guaranteed. Write for full particulars. H. BURT, Taunton, Mass.

POULTRY AND BEES

GENERAL OBSERVATIONS ON POULTRY HOUSES.

The location of the poultry house is the most essential, for no matter how good a house one builds if the location is poor the house is undesirable. If the house is built on level land grade enough should be provided for around the building to allow good drainage. A knoll or slight rise in the ground furnishes the best location. If there is a clump of pine, spruce, or hemlock at the north and west of the buildings it will protect it from the cold winds. A hedge can be set out and in a few years will be large enough to shut off the cold blasts.

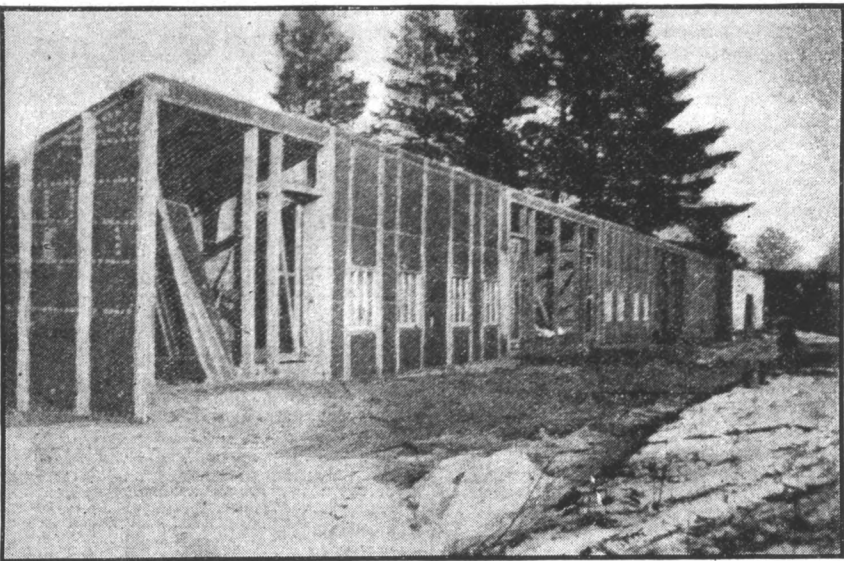
The sills of the house should be at least one foot from the ground and the space below the sills boarded in, having the



Fine Location for Poultry House—Good Drainage and Windbreak.

boards come to the top of the sills to keep the latter from decaying by coming in contact with the earth which should be filled in as high as the sills not later than August that it may be thoroughly dried out before winter. Most any kind of soil may be used, a coarse sand or a fine gravel being preferable.

Houses may be made any size or shape to suit the builder. Some prefer a double roof, others a single roof. Both have their advantages. The most common is a house built 10 to 12 feet in width, four to five feet high in rear and eight to nine feet in front, with shed roof. One win-



Sectional House—Open-front Scratching dow, or two half windows, should be used to every ten feet of length. Houses should always face the south. Open-front scratching sheds should be added to every closed building, or windows should be removed on all sunny days in winter during four or five hours of the middle part of each day. Never close a building absolutely tight but always leave a window raised one inch or two for ventilation. All closed buildings should be thoroughly aired as well as dried out during the warm days of winter.

The sills of the henhouse may be of 2x4 stuff but 4x4 is preferable. The framework—uprights, plates and rafters—may be of 2x4 material. Pine, spruce or hemlock lumber is suitable. Square-

edged boards of pine or hemlock should be used, for, if paper is used to cover the building a smoother surface is thus obtained. A cheap building paper, or tarred paper, may be covered with shingles which, if kept whitewashed, will be more durable than any other covering except clapboards. There are several good roofing papers on the market that may be used but they should be painted every year or two to make them last. Board floors are objectionable for many reasons and should not be used where dirt floors can be provided.

Some poultrymen prefer the cheapest kind of lumber for their poultry houses. A successful poultryman of my acquaintance built his first houses of fence boards, some of which had seen years of service and were thin and weather-beaten. For framework he used dead pine poles three or four inches in diameter. The sides and rear were double-boarded, while the roof was covered with a roofing paper.

These houses are still in use after twelve years of service. While other more expensive houses have been built this poultryman contends that the fence-board houses produce the best results.

N. H.

A. G. SYMONDS.

SPACE REQUIRED FOR FOWLS.

A St. Clair Co. reader asks about the size of house he will need to accommodate 60 or 70 fowls. Also as to kind of material and cost of same. The general rule is to allow not less than 4 sq. ft. of floor space per fowl. The house should be not more than 10 or 12 ft. deep; otherwise the rear part of house will be too far from the windows in the front. Figuring on a depth or width of 12 ft. it would be necessary to make the house 20 ft. long to take care of 60 fowls. However, 60 or 70 fowls are a good many for a single flock and it might be better to build the house in two sections and divide the flock. We can hardly advise as to cost of material as conditions vary much in different localities. Some excellent general suggestions on poultry house building are presented in another column of this department and some plans for convenient and economical houses will follow in future issues.

HELPS FOR THE BEGINNER IN BEEKEEPING.—II.

Use of the Queen Excluder.

During the first season, when combs are being built and the queen has full range of the hive, the combs extracted may contain some brood. Care must be exercised not to turn the extractor too fast if brood is unsealed, otherwise it may be thrown out. The proper speed must be determined by experiment.

Having once obtained the combs re-

If a swarm does issue, hive them on full sheets of foundation, giving a two-story hive if the swarm is extra large. Shade the hive well. New swarms build beautiful even combs if hived on full sheets of comb foundation. I am assuming, however, that the operator has no time to watch for swarms during the busy season, hence it is best to prevent swarming as much as possible.

The peculiarity of the season has so much to do with swarming that during some years bees swarm in spite of all precautions. To lose the swarm is wasteful, yet possibly the operator cannot be at home during the day. The most practical method is to examine the hive every five or six days for queen cells, which are a most common symptom of swarming. By this I mean, look for queen cells with eggs or larvae in them. In natural swarming bees usually construct queen-cell cups on the lower edge of the brood combs. The queen lays an egg in each of these. In three days the eggs hatch into tiny larvae and in six days more the cells are sealed and out comes the swarm. As a rule, bees do not swarm until the first queen cell is capped. Frequently bees will construct small cell cups several days in advance of the time when the queen lays eggs in them. When these little cell cups are started it is best to watch the colony more closely, laying a stone on the hive or otherwise marking it. The second story of the hive should be tilted forward in looking under for queen cells if no excluder is used; otherwise the first story will contain the cells.

To Prevent Swarming.

Having discovered a colony containing queen cells with larvae in them, it is practically certain that they will soon swarm. To avoid their swarming in the usual way practice "shook," or forced swarming. A new hive is prepared exactly like that used for a natural swarm. Set the old hive aside and place an empty one in its place. Smoke the bees and jar the hive well to make them fill up with honey; then remove the frames one by one and shake the bees into the new hive. As fast as the frames of honey and brood are removed place them in an empty hive body carried along for the purpose. The bees, having their queen with them, will be in exactly the same condition as the they had swarmed naturally and will go to work with great energy. Don't forget to shade them.

The body, or bodies, of brood combs may be placed on some other hive in need of more brood or a super. As fast as the brood is hatched the cells will be filled with honey.

I neglected to say that where a queen excluder is used and the queen kept below, only one story of brood combs need be shaken. The extracting supers of honey may either be placed, bees and all, on a weaker colony, or they may be placed above the hive with a bee escape between them. A bee escape is a contrivance placed in a board between the super of honey and the brood chamber so that bees can go downward into the brood chamber but cannot return. Escapes are largely used by extensive beekeepers in removing honey.

Porter Co., Ind. F. B. CAVANAGH.

A Valuable Book for Chicken Raisers.

"Progressive Poultry Culture" is the title of a book recently received, a careful examination of which impels us to commend it to our poultry readers. It is from the pen of Dr. Arthur A. Brigham, of the South Dakota School of Agriculture, and is designed to meet the needs of those farmers and poultrymen who have long desired a plain, practical and authoritative treatise on poultry culture. From an able presentation of the basic factors of success in the business it progresses, clearly and systematically, thru all the details of up-to-date poultry management, particular attention being given to the problems involved in line breeding, proper housing, artificial incubating and brooding, colorizing, balancing rations and feeding, caponizing, profitable marketing, etc. The chapter on parasites and diseases, which covers 30 pages, is exceptionally complete and, in our opinion, constitutes the most valuable feature of the book. Half-tone reproductions of typical specimens of the various breeds of chickens are included among the illustrations, and the chapter on housing and fencing contains a number of half-tones and etchings which will prove helpful to the beginner or to the veteran breeder in planning buildings and runs. There is also an excellent chapter on the exhibition of poultry and score-card judging, and another on the keeping of records and accounts and on seasonal, judicious advertising of breeding stock and eggs. As a whole, it leaves little to be desired by the progressive chicken raiser who has felt the need of such a work in his efforts to attain the highest success in his business. It is a volume of nearly 300 pages, bound in cloth, and may be secured thru the Michigan Farmer for \$1.50 per copy.

About Swarming.

While, as a rule, bees do not swarm if plenty of empty combs are provided, we must be prepared for emergencies.

We Give Them Away!



We have printed, for free distribution, several thousand copies of The Incubator Book. If you want a copy, get busy! Send a postal and book comes, all charges prepaid, by return mail. It tells the things you must know if you make extra large profits raising chickens.

Sure Hatch Incubator

The Incubator Book tells what makes the "Sure Hatch" the Champion of the World. Tells all about the "bargain" incubators. Shows why they fail. More good, practical help for poultry raisers than in any other book ever sold for \$2—yet it is free for the asking. Send today. Address

SURE HATCH INCUBATOR CO.

Box 92, Fremont, Neb., or Dept. 92, Indianapolis, Ind.

\$7.55 Buys the Best 140-Egg Incubator ever Made
Freight Prepaid
Double cases all over; best copper tank; nursery, self-regulating. Best 140-chick hot-water Brooder, \$4.50. Ordered together \$11.50. Satisfaction guaranteed. No machines at any price are better. Write for book today or send price and save waiting.
Belle City Incubator Co., Box 14, Racine, Wis.

125 Egg Incubator and Brooder Both For \$10
If ordered together we send both for \$10 and pay freight. Well made, hot water, copper tanks, double walls, double glass doors. Free catalog describes them.
Wisconsin Incubator Co., Box 89, Racine, Wis.

"MONEY IN EGGS"

S. C. BROWN Leghorns—My method and farm range has developed layers with vigor. My eggs produce layers. One-third fancier's price and better layers. \$1 per 30, \$2 per 60, \$3 per 100, \$5 per 200, \$7 per 300. J. E. MCARTHUR, R. 3, Enfield, Ill.

RED BABIES—Rhode Island Red baby chicks only 15c each, \$15 per 100 and up. Prize winners Cincinnati, Chicago, Indianapolis, Kansas City, Milwaukee, Detroit, Toledo. Eggs \$2 to \$20 per 15. Owner CHICAGO KING, world's greatest Red male. High grade eggs and chicks to a few parties on a share basis, at reduced price. Barred Rock, Leghorn, Black Minorca chicks 10c each, \$10 per 100. One lot Black Minorcas, 15 hens, 1 cockerel, \$16. One lot Black Minorcas, 15 hens, 1 yearling male, son 1st cock at Detroit, \$25. Two lots Buff Orpingtons, 1 male, 10 hens, \$12. Five lots of Reds, 11 birds, \$12. Also Red females \$1 and \$2 each, and cockerels at \$2, \$3, \$5 and \$10 each. EDWIN R. CORNISH, Edwardsburg, Mich.

STOCK and EGGS in Mich. best White, Silver, Golden and Buff Wyandottes. Rhode Island Reds, Barred Rocks, Pat. Cochins, Light Brahmas, White & Black Langshans. All varieties of Leghorns & Hamburgs. Pekin, Rouen, Cayna, and Muscovy Blue Swedish White & Gray Call Ducks. Toulouse, Embden, African, Bronze & White China Geese. E. J. Haskins, Pittsford, Mich.

"RINGLETS" BARRED ROCKS, Direct New York winners, three matings, Eggs, 15 for \$1.00. J. W. SALLIARD, Romeo, Mich.

FAIRVIEW FARM R. I. Reds and R. C. B. Leghorns. Eggs \$1.50 and \$1 per 15; \$2.75 per 50; \$5 per 100. ENGLISH & WIDMAYER, Chelsea, Mich.

R. I. REDS EGGS—15 for \$1.00; 25 for \$1.50; 50 for \$2.50; 100 for \$4.00. Winter layers. Mrs. Edith Park, Coopersville, Mich., R. 5.

BEST STRAIN R. C. B. I. Reds. Eggs each, A pens, 10 cents; B pens, 8 cents; C pens, 5 cents. Gray African Geese world's best eggs, 40 cents each. W. T. FRENCH, Ludington, Mich.

White Wyandotte Eggs from prize winning & A. 1 laying stock \$1.50 per 15 or \$2.50 per 30 eggs. A. Franklin Smith, Ann Arbor, Mich.

EGGS—Light Brahma, White Wyandotte and B. P. Rocks \$1 a setting, \$1.50 for two settings. E. D. BISHOP, Route 8, Lake Odessa, Mich.

Barred Plymouth Rocks—Eggs for hatching. Price, 15 for \$1.25 for \$1.50; 50 for \$2.50; \$4 per hundred. Satisfaction guaranteed. Colon C. Lillie, Coopersville, Mich.

EGGS—M. B. TURKEY, PEKIN DUCK, BARRED ROCK, HUPP FARM, Birmingham, Mich.

MINORCA cockerels at \$1 and \$2 each. Am booking orders for P. C. pigs, sired by boars of extra breeding and great quality. R. W. Mills, Saline, Mich.

White Wyandottes—Eggs for hatching. Price, 15 for \$1.25 for \$1.50; 50 for \$2.50; \$4 per hundred. Satisfaction guaranteed. Colon C. Lillie, Coopersville, Mich.

S. C. W. Leghorns. Eggs 15 for \$1; 50 for \$2.50; 100 for \$4. Month old. A. 1st prize hatched chicks \$18 per 100; May hatched chicks \$15 per 100. GILMAN A. GREEN, Clarkston, Mich.

BUFF ROCK EGGS—\$1 for 15. Best farm fowl. Hardy. Quiet. Good winter layers. Large. WILLIS S. MEADE, R. No. 3, Holly, Mich.

R. C. and S. C. RHODE ISLAND RED and Columbian Wyandotte Eggs, \$1 per 15. BULL BROOK, Ann Arbor Michigan.

S. C. BROWN LEGHORNS. Our Egg Circular now ready, it's free. Big Birds—Greatest Layers, 15 cockerels yet for sale. FRED MOTT, Lansing, Mich.

SINGLE COMB WHITE LEGHORNS—Eggs for hatching. Price, 15 for \$1.25 for \$1.50; 50 for \$2.50; \$4 per hundred. Satisfaction guaranteed. Colon C. Lillie, Coopersville, Mich.

SILVER, Golden and White Wyandottes. A nice lot of good cockerels still left. Satisfaction Guaranteed. C. W. Browning, Portland, Mich.

DOGS.

FOX AND WOLF HOUNDS

of the best English strains in America; 40 years experience in breeding these fine hounds for my own sport. I now offer them for sale. Send stamp for Catalogue. T. B. HUDSPETH, Sibley, Jackson Co., Mo.

COLLIES for Service—Two Registered sable and white prize-winners and stock workers. No puppies at present. W. J. ROSS, Rochester, Mich.

FOR SALE SCOTCH COLLIE PUPS. Females spayed and kept till well. A. C. FREEMAN, Ypsilanti, Mich., R. F. D. 2.

FARMERS' CLUBS

OFFICERS OF THE STATE ASSOCIATION OF FARMERS CLUBS.

President—A. L. Chandler, Owosso.
Vice-President—Mrs. Clara L. French, Pompeii.

Secretary—Mrs. W. L. Cheney, Mason.
Treasurer—D. K. Hanna, Caro.

Corresponding Secretary—Clayton Cook, Owosso.

Directors—D. M. Beckwith, Howell; D. M. Garner, Davisburg; T. B. Halladay, Norvell; E. C. Hallock, Almont; B. A. Holden, Wixom; Wm. H. Marks, Fair Haven.

Address all correspondence relative to the organization of new Clubs to Mrs. W. L. Cheney, Mason, Mich.

Associational Motto.—

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

Associational Sentiment.—

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

HIRED HELP ON THE FARM.

Paper read by Mrs. C. P. Johnson, of the Hadley and Elba Farmers' Club, before the State Association of Farmers' Clubs.

(Concluded from last week.)

The day help is another question entirely that is purely a matter of meals with the good housewife. The thrasher is a question by himself and a mighty one, too.

We have them at all times, in season and out season, but never yet at a convenient season. Ten chances to one the bread can and cookie jar are nearly empty, and one pair of hands to prepare everything for from 12 to 15 hungry men, and get it on time, too.

The one great thing which I have learned in this connection is to do the best you can and serve them good naturedly.

They are generally men of common sense and will make allowances for knowing that they were unexpected and perhaps they came under protest, too, because someone shirked a meal.

Shirk may seem a strong word, but wait until you have to fill in the gap, and see what you think about it.

I know it may be a temptation, but don't send them away without dinner or supper when they have been doing your work. The men resent it, as well as the woman imposed upon.

"The laborer is worthy of his hire," and the thrasher is worthy of his meals.

I have yet to hear of a thrashing crew finding fault, when they knew a woman had done the best she could, and served them pleasantly, but they are not sparing of criticism when they are unjustly sent to the next place for meals.

The trying and comical experiences I have had along this line would fill a volume of no small size, and make even a dyspeptic laugh. Right here, let me say when you find a thrasher who does good work, and carries a respectable crew, patronize him, and you will gain by it. He knows your barns, your granaries, and how much you wish your work done. There is no time wasted, and it is much pleasanter to board someone you know than an entire stranger.

Hay pressers are the worst of all. The dust is so fine and so penetrating, that they cannot avoid soiling everything they touch. Towels, bed and table linen are a heart-rending, back-aching sight to the weary woman at the close of their visitation. You can fill up a thrashing crew, but hay-pressers—never. They will clean up everything you put before them, and do it over again, ad infinitum.

As to sheep shearers, corn huskers, etc., the same principles hold good. They keep the housewife from getting lazy and finding her work monotonous, you know. Like the man who was trying to rent a place. He said he had only 12 children and wanted room for a garden, so his wife could hoe it during her leisure time.

The hired girl on the farm is a problem by herself. The girl who goes into the city home expects to be a servant and not to enter the family life. On the farm it is different and is fast becoming a question of no girl at all. The city allurements, department stores and public institutions, make it well nigh impossible to get help on the farm. Sick or well, living or dying, you must do it alone.

You can get hired men, but you cannot get hired girls for love or money. We have had all kinds of girls, good, bad and indifferent, principally good ones, and I must confess the best ones were those who were not obliged to work out but came for accommodation. One, an independent, resolute girl, a high school graduate, a member of my own alumni, promised to help me. Her parents objected but she said, "Take your choice, let me go or send me to M. A. C. I want to learn a new way of doing things." Judge for yourself if I could treat that girl as a servant or meet her on an equality basis.

Such girls are treasures and there is only one trouble with them. Others are not slow to see their worth, and some young man gets the girl and you are left alone again.

I admit, however, that the average hired girl is anything but a joy forever and it requires the patience of Job to live with her. Carelessness, incapability, and don't care-iveness seem to be her chief characteristics, for which she demands the compensation due efficient service.

Indeed, one housewife said she could

learn something new of every girl she employed, if it was only some new way of slighting the work.

But "honor to whom honor is due" is an old precept, and if you do see an easier, quicker method of attaining the same result do not fail to give the girl credit for it, and tell her so, too.

It will not hurt you, and may help her. Every member of God's family craves appreciation, and is happier for its acknowledgment. If the old adage, "Put yourself in his place" was religiously practiced by both employer and employee, the strife between mistress and maid, merchant and clerk, capital and labor, would be reduced to a minimum, and harmony reign supreme. We have solved the hired girl by hiring no girl at all. We try to get a man for housecleaning, and really a strong, capable, teachable man is a bonanza in that domestic upheaval.

As to the everyday work, it is no worse for the men to sweep, wash dishes and mix bread, too, in an emergency, than for the housewife to work in the garden, drive team on the hay loader, rake or slings. You smile about the bread, but I can testify that a bread mixer with a man behind the crank is a boon to the weary housewife.

The scarcity of girls compels us to follow the men's example and take advantage of all the improved labor saving appliances within reach of our purse.

There is one thing more, friends. Isn't the farmer's wife who, in her weak way is striving to make a home for those temporary inmates, the hired help, doing God's work just as truly as those who go down in the slums or on mission fields?

Don't think she does it from choice, only stern necessity. The privacy of the home circle is just as dear to her as to the most aristocratic city lady. Just so far as the farmer feeds them all, the farmer's wife makes it possible for the city ladies to dwell in their exclusiveness. Some one must do it, and do, I beg of you, give her the honor that is due her. The Good Book says, "Inasmuch as ye did it to the least of these," etc. They are "The strangers within our gates," and if their sojourn with us does not make them better men and women, then we have failed to do our best for them. But, when all is said and done, happy is the farmer and happier the farmer's wife who is independent of hired help.

CLUB DISCUSSIONS.

Discuss Tile Drainage.—The Groveland Farmers' Club met at the pleasant home of Mr. and Mrs. J. J. Coventry, March 27. Dinner was served. Meeting was called to order by Mr. Allan Brosius, vice-president of the club, followed by singing, roll call, reading of minutes of previous meeting, etc. Question for discussion, "Will it behoove us, as farmers, to give attention to the drainage of the farms, and would it be to our advantage as farmers to drain where needed, even if we had to hire the money to accomplish the same?" A much appreciated talk was given by Mr. J. J. Coventry, on tile draining and beautifying the farms. He thinks tiling pays, providing a good outlet can be obtained, and will be kept open. On the low places fine timothy can be grown, and certainly is more profitable than cattails and willows, and adds beauty also. In some instances, the first crop, either timothy or oats has paid for ditching and tile. The question was also discussed by Messrs. Brosius, Severner and Renfrew. An excellent program was rendered. The club voted to hold afternoon meetings and serve supper, beginning with the last Saturday in April. The next meeting will be held at the home of Mr. and Mrs. L. D. Coventry.—Mrs. Jas. Auten, Cor. Sec.

Hold Temperance Meeting.—The Salem Farmers' Club held its March meeting at the pleasant home of Mr. and Mrs. E. T. Walker. Over 100 guests gathered and enjoyed the social hour and the good program. As was before announced the subject was "Temperance." The speaker for the day was Rev. Carl Paton, of Ann Arbor. He said in part: "Never before was there such general and widespread interest in putting down this great evil of our civilization, the licensed saloon. We in the country know comparatively little of the ruin being wrought in the cities and towns thru the temptation and attraction of the saloon. Of all places it

seems most unreasonable to license the saloon in the city of Ann Arbor, where from every state in the union and from the lands across the sea our young men are sent that they may be educated and trained into good, intelligent and noble men. At the same time the state licenses 40 saloons to pull them down to ruin." The address was much enjoyed and we hope will bear much fruit in the election returns. A fine paper was read by Miss Rena Donovan. Mrs. Mae Atchinson gave an original poem, and several good literary and musical numbers were given. W. B. Thompson read resolutions on the death of Mr. Samuel Wilkinson.—H. C. Thompson, Reporter.

GRANGE

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

IN THE UPPER PENINSULA.

A Menominee County Grange Conference was held at Powers, in the opera house, March 26, when the State Lecturer was present to consult with officers and members on means of advancing Grange interest among them. Some 60 Patrons attended the morning and closed session for instruction in the ritual work; 110 people paid close attention, during the afternoon open meeting, to a half dozen addresses upon the history and value of organization among farmers. There are three Granges in Menominee county, all of which were represented in this gathering. The Master of Pioneer Grange is County Deputy Even Anderson who, with his wife and lecturer and chaplain of his Grange, came twenty miles and gave much aid to the two newer Granges. Master Galligan, of Excelsior Grange, wife and four members came from Carney and also contributed valuable assistance. Attorney Rushmore, now of Stephenson but formerly from Lenawee county, took occasion to come in and was called on for a practical talk. Master Geadke and others from Progressive Grange, at Powers, hospitably entertained their guests and expressed confidence in the value that will come thru working together. Each of these three Granges in this new Grange county is striving to make the 200 membership mark this year, and it is expected that their ranks will soon be recruited to a considerable extent from among the wives and daughters of the men who are now members. No subject during the day received more attention from all the speakers than that of "Women in the Grange," for it was the most obvious need at that point. About a third of the audience was made up of women who have not yet joined in Grange work with the men of their families.

The day following the Powers Conference was a "red letter day" for patrons of Schoolcraft county. Nine subordinate Granges have been organized in this county, since the meeting of State Grange, by Deputy John Wilde, and on Saturday, March 27, 130 members of these new Granges met at Manistique. After a genuine picnic dinner together they proceeded to organize "Faith Pomona Grange," with 87 charter members. Jacob Edwards was elected master, B. S. Cole, lecturer, and Frank Hutt, secretary. Instruction and drill on Grange usages occupied the remainder of the afternoon.

This marked the beginning of county co-operation toward the betterment of farmers in that section. Another sumptuous meal was served at supper time and the hall again filled for the evening.

The program rendered then might have been called a "demonstration lecture hour," being under the direction of the State Lecturer and quite an impromptu affair. It was taken part in by fully 50 of the new patrons who entered heartily into the spirit of learning by doing. Songs were in charge of the young people, select readings were hastily selected and given with a relish, talks on "The uses of ritual work" and "Legislation we are interested in" were made by two brothers, and besides these, every officer present of any of the subordinate Granges responded splendidly to the roll call by answering the question, "Why did I join the Grange?" In these improvised exercises, however, was evident the prophecy of future Pomona programs of exceptional quality.

Deputy Wilde, at this date, had just organized his twentieth Grange in the upper peninsula since the first of the year, and was about to begin a program that contemplated the complete organization of Luce and Mackinac counties, including a Pomona Grange in each. His earnestness and self-sacrifice in pursuing this work under difficulties are compensated for now by the zeal with which these people are entering into their new relations. They see, not far ahead, some of the effects upon trade and legislation that inevitably follow the self-assertion of a farming population and they are bent upon securing such results in their section of the state.

JENNIE BUELL.

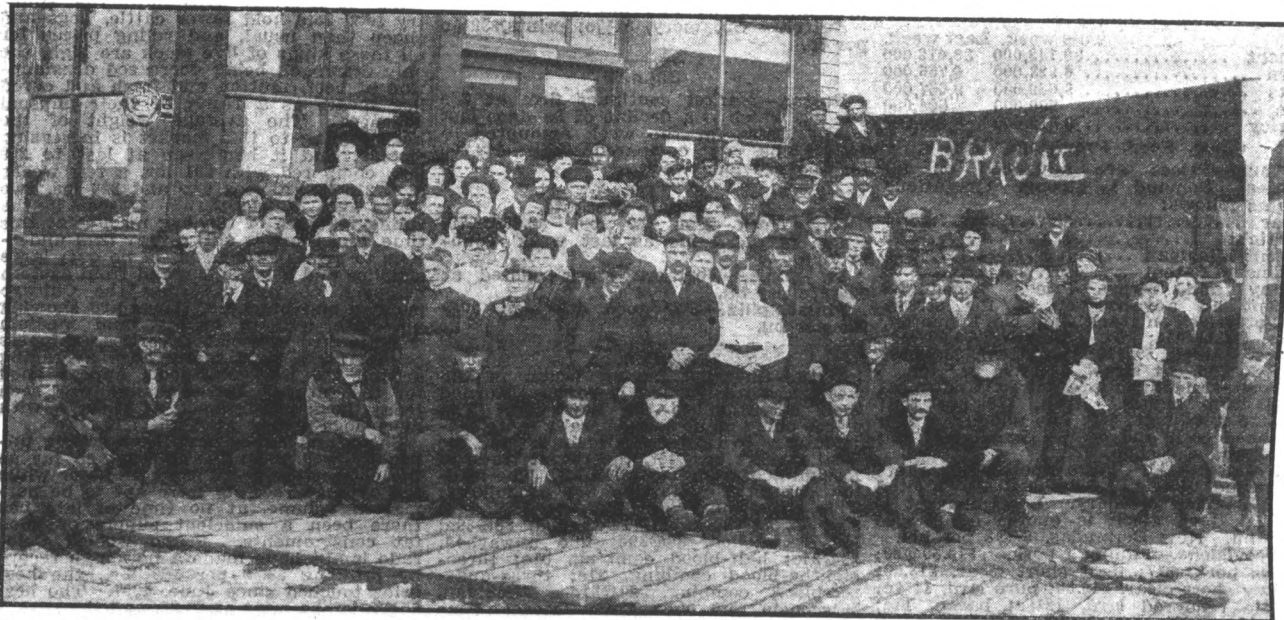
AMONG THE LIVE GRANGES.

Mancelona Grange, of Antrim Co., is training a degree team which will be sent to State Grange at Traverse City next December. Every member of the team is under 20 years and a fair number of the members are young ladies. This Grange takes considerable pride in what it does, as it has a reputation to maintain, it having received a silver medal at the St. Louis exposition.

Patrons Secure Access to Library.—At the meeting of Silica Grange, No. 546, of Muskegon Co., March 20, plans were made whereby the residents of Dalton and vicinity may draw books from the Hackley public library, of Muskegon, Silica Grange guaranteeing the proper use of the privilege. A talk on "Legislation we are interested in," by Hon. Chas. I. Giles, representative from Muskegon Co., was very interesting, and brot out some discussion. A paper on "Banks and Banking," by Mr. P. O. Holthe, of the Muskegon Savings Bank, was full of information and was well received.—Lect.

Sumner Patrons Are Active.—Sumner Grange, of Gratiot Co., held its last meeting March 13. The legislative committee reported that there were two petitions to be signed by all the qualified voters, viz: For the Torrens System of Land Transfers, and to force telephone and telegraph companies to be common carriers. The advanced program was discussed. Some that it a "Little style and a lot of money." Three candidates were given the third and fourth degrees. A recess was declared, after which the lecture hour followed. Roll call was responded to by all but eight of the 31 present. The debate was once more postponed.

Puffy Creek Grange was organized in Fairbanks township, Delta Co., Mich., by Deputy John Wilde, Monday evening, March 22. The following officers were chosen: Master, Harry Hutchins; overseer, August Mercier; lecturer, Mabel Plante; steward, Sylvester Louis; asst. steward, Joseph Mercier; lady asst. steward, Agnes Lamothe; chaplain, Rose Mercier; treasurer, Philip Plante; secretary, Frances McLeod; gatekeeper, Anatol Lacris; Ceres, Louise Mercier; Pomona, Georgiana Plante; Flora, Ellen Lafrancis.



Faith (Schoolcraft Co.) Pomona Grange. Organized at Manistique, March 27, 1909, with 87 Charter Members.

Deputy Wilde is fourth from the left among those sitting or kneeling in front row; at his left stands Sister Jennie Buell, State Lecturer; Pomona Master Edwards to the right of center giving the Patron's general sign; Pomona Secretary Hutt is sixth from the left in front row, sitting with feet crossed.

MARKETS

DETROIT WHOLESALE MARKETS.

April 7, 1909.

Grain and Seeds.

Wheat.—Prices reached a new high basis the past week. Every quarter is sending out bullish news. The millers in the southwest are searching everywhere for cash grain. The outlook for the new crop is growing poorer as the days pass in that the grain has been unprotected from the effects of the frosts. Europe is beginning to feel the effects of the falling off in shipments from the southern hemisphere. It looks now as if she would have to come to this side for wheat and breadstuffs. The high prices have urged the farmers to sell close, and the continued demand from the millers for wheat to grind into flour, will likely keep the trade bullish till the new crop is harvested in as much as the market cannot be supported by deliveries from the farms as is usual at this season. One year ago the price for No. 2 red wheat was 93½c. Quotations are:

	No. 2	No. 1	No. 3
Thurs.	1.30	1.30	1.27
Fri.	1.31	1.31	1.28
Sat.	1.33	1.33	1.30
Mon.	1.33	1.33	1.30
Tues.	1.35	1.35	1.32
Wed.	1.35	1.35	1.32

Corn.—Prices have fluctuated within narrow limits with a general tendency toward higher figures. The strength in wheat is largely responsible for the advance made. Deliveries were small the past week and the demand continued normal. It is generally believed that farmers are holding a fair supply of the grain. The acreage to be planted in the corn belt promises to be unusually large. One year ago the price for No. 3 corn was 65½c. Quotations for the week are:

	No. 3	No. 2	No. 1
Thursday	68	69½	69½
Friday	68½	69½	69½
Saturday	68½	69½	69½
Monday	68½	69½	69½
Tuesday	68½	69½	69½
Wednesday	68½	69	69

Oats.—There has been but a fraction of an advance in values. The strength is largely due to the bullish features of the wheat trade. Demand was active most of the week. Receipts are small. A year ago No. 3 white oats were selling at 57c. Quotations for the past week are:

	No. 3	No. 2	No. 1
Thursday	57½	57½	57½
Friday	57½	57½	57½
Saturday	57½	57½	57½
Monday	57½	57½	57½
Tuesday	57½	57½	57½
Wednesday	57½	57½	57½

Beans.—No life has been injected into this trade. The prices have been moved up a cent. The figures are only nominal. One year ago the price for cash beans was \$2.25. The nominal quotations for the past week are:

	Cash	May
Thursday	\$2.36	\$2.41
Friday	2.36	2.41
Saturday	2.36	2.41
Monday	2.36	2.41
Tuesday	2.36	2.41
Wednesday	2.36	2.42

Cloverseed.—At this time in 1908 cash seed was commanding \$13 per bushel. The activity in the cash department is waning in that the farmers have their wants well supplied for seeding purposes, except for sowing with the oat and barley crops. The lack of snow the past several weeks and the continued freezing and thawing has damaged the clover plants. Quotations for the week are:

	Prime	Spot	April	Oct.
Thursday	\$5.50	\$6.15	\$8.00	
Friday	5.50	6.25	7.75	
Saturday	5.55	6.30		
Monday	5.55	6.25		
Tuesday				
Wednesday	5.55	6.25		

Barley.—Market is dull. Good quality selling at from \$1.45 to \$1.50 per cwt. **Rye.**—Market is firm and trading light. Offerings are small. The price is 85c for cash No. 2.

Visible Supply of Grain.

	This week	Last week
Wheat	36,142,000	36,412,000
Corn	6,923,000	6,755,000
Oats	9,062,000	9,067,000
Rye	500,000	504,000
Barley	3,312,000	3,240,000

Flour, Feed, Provisions, Etc.

Flour.—Prices are advanced on all grades. Demand is strong. Quotations are as follows:

Clear	\$5.75
Straight	5.90
Patent Michigan	6.25
Ordinary Patent	6.00

Hay and Straw.—Prices unchanged except an advance of \$1 for straw. Carlot prices on track are: No. 1 timothy, new, \$10.50@11; No. 2 timothy, \$9.50@10; clover, mixed, \$9@10; rye straw, \$8@8.50; wheat and oat straw, \$7@7.50 per ton.

Feed.—Middleings are lower, and meal and chop higher. Bran, \$28 per ton; coarse middlings, \$29; fine middlings, \$30; cracked corn and coarse corn meal, \$29; corn and oat chop, \$27.

Potatoes.—All large potato markets continue strong. Offerings are limited and demand ordinary. Local market is firm. Good stock is quoted at 85@90c per bu. New Bermudas, \$7@8 per bbl.

Provisions.—Family pork, \$19.50@20; mess pork, \$17; light short clear, \$18.50; heavy short clear, \$19.50; pure lard, 11½c; kettle rendered lard, 12½c; bacon, 13c; shoulders, 8½c; smoked hams, 13c; picnic hams, 8½c.

Dairy and Food Products.

Butter.—With declines at Elgin and other large markets the local trade has dropped to a lower basis where dealers

expect a more active business will be done. Quotations: Extra creamery, 28c; firsts, 26c; packing stock, 15c; dairy, 18c.

Eggs.—There is a good supply of eggs on the market but with the large demand which always precedes Easter the price of last week is maintained. Fresh stock is being quoted at 19½c per dozen.

Poultry.—The offerings are fair and the market is quiet. Prices are unchanged. Quotations: Dressed chickens, 15@16c; fowls, 14@15c; ducks, 15@16c; geese, 12@13c; turkeys, 20@22c. Live—Spring chickens, 15@16c; fowls, 14@15c; ducks, 15@16c; geese, 10@11c; turkeys, 18@20c per lb.

Cheese.—Michigan, 16@16½c; brick, cream, 17½@18c; schweitzer, 19@20c; limburger, June, 15c; Oct., 17c per lb.

Fruits and Vegetables.

Apples.—Market firm. Best grades are quoted at \$5.50@6.50 per bbl. Western apples in bushel boxes, \$3@3.75.

Onions.—Spanish, \$1.80 per bu; home-grown at 80@85c per bu; Bermudas, \$2.75 per crate.

Cabbage.—Home-grown selling at 4c per lb; new cabbage, \$3@3.25 per crate.

Vegetables.—Green onions, 15c per doz; radishes, 25c per doz; cucumbers, \$1.25@1.50 per doz; lettuce, 12c per lb; head lettuce, \$3 per hamper; watercress, 40c per doz; spinach, \$1 per hamper; parsnips, \$1 per bu; oyster plant, 40c per doz.

OTHER MARKETS.

Grand Rapids.

Wheat still goes a kiting, the mills offering \$1.26 for No. 2 red this week. The bean market is also higher, buyers paying \$2.25 for hand-picked stock. Creamery butter has taken a drop of 3@4c since last week, the dairy stock is not greatly affected. Eggs are ½c higher. No great change is noted in potatoes, stock at outside buying points bringing around 80c. Local seed men are offering farmers \$5@6 for clover seed and \$8@9 for alsike. Trade in garden seed is now active. No change in meats this week.

Quotations follow:
Grains.—Wheat, \$1.26; corn, 68c; oats, 55c; buckwheat, 60c per bu; rye, 75c. Beans.—Handpicked, \$2.25 per bu. Butter.—Buying prices, Dairy, No. 1, 21c; No. 2, 16c; creamery in tubs, 26½c; prints, 27c. Cheese.—Michigan full cream is selling at 16@16½c per lb; brick, 17c; Swiss, 17c; limburger, 17c.

Eggs.—Case count, 17½@18c. **Apples.**—New York, \$5@6 per bbl. **Potatoes.**—80@85c per bu. **Cattle.**—Cows, \$2.50@4 per cwt; steers and heifers, best quality, \$3@5; dressed mutton, 8@9c; dressed veal, 6@9c; dressed beef, cows, 5@7c; steers and heifers, 6@8½c. **Hogs.**—Dressed, 8½c. **Live Poultry.**—Fowls, 12½@13½c; young chickens, 13@14c; roosters, 9@10c; turkeys, 18@19c; young ducks, 13@14c; geese, 10@11c; capons, 20@21c; broilers, 1½ to 2 lbs., 28@30c per lb.

New York.

Butter.—Steady. Creamery specials, 27@27½c; western imitation creamery, 20c. **Eggs.**—Firm. Fancy selected white, 21½@22c; do., western storage packed 21½c. **Grain.**—Wheat, No. 2 red, \$1.30½@1.31½; corn, No. 2, 77c; oats, mixed, 57@58c. **Poultry.**—Alive, easy. Chickens, broilers, 25@33c per lb; fowls, 15½@16½c; Dressed, quiet. Chickens, 12½c; fowls, 15@15½c.

Chicago.

Wheat.—No. 2 red, \$1.25@1.30; May, \$1.22; July, \$1.08½. **Corn.**—No. 3, 66½@67½c; May, 67½; July, 66½c. **Oats.**—No. 3 white, 54½@56½c; May, 55½c; July, 47½c. **Butter.**—Steady. Creameries, 22@28c; dairies, 20@25c. **Eggs.**—Steady. Firsts, 19c; prime firsts, 20c. **Potatoes.**—Steady. Car lots in bulk, Fancy, 90@95c per bu; ordinary 88@90c.

Pittsburg.

Potatoes.—Michigan, \$1 per bu. **Apples.**—Steady. King, \$6.25 per bbl; Spv, \$5@5.50; Spitzenburg, \$5@5.50. **Eggs.**—Fresh candled, 18½@19c per doz; current receipts, 18@19c. **Butter.**—Creamery, 31½c; prints, 32½c per lb.

Elgin.

Butter.—Market continues firm at 28c per lb., which is a decline of 2c since last week. Sales for the week amounted to 445,200 lbs. as compared with 442,700 for the previous week.

Other Potato Markets.

New York.—Per 180 lbs., \$2.50@2.75, which is the same as last week's quotations.

St. Louis.—Northern stock quoted at 95@97c per bu.

Philadelphia.—For good offerings, 90@92c per bu.

Boston.

Wool.—Shearing having begun in the western states dealers here have turned their attention to the new clip. The prices being made are generally quite satisfactory to sellers. Business in the local market is quiet, the recent trade in foreign goods having fallen off. The leading domestic quotations are as follows: Ohio and Pennsylvania fleeces: XX, 34@35c; X, 32@33c; No. 1 washed, 38@39c; No. 2 washed, 35@36c; fine unwashed, 23@24c; half-blood combing, 31c; three-eighths-blood combing, 31c; three-quarter-blood combing, 29@31c. Michigan, Wisconsin and New York fleeces: Fine unwashed, 22@23c; delaine unwashed, 28@29c; half-blood unwashed, 29@30c; three-eighths-blood unwashed, 29c; quarter-blood, 28@29c. Kentucky, Indiana and Missouri: Three-eighths-blood, 29@30c; quarter-blood, 28@29c.

THE LIVE STOCK MARKETS.

Buffalo.

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

April 5, 1909.

Receipts of sale stock here today as follows: Cattle, 145 loads; hogs, 12,800; sheep and lambs, 17,000; calves, 3,000 head.

The cattle market today was very dull and it was late in the day before much business was done. All kinds of cattle sold from 25@30c lower than last Monday and at the close there are about 25 loads of good cattle in the yards unsold. The demand for the good weight cattle is very light. Bulls were about 50c a hundred lower. Stockers sold a little better today.

We quote: Best export steers, \$6@6.50; best 1,200 to 1,300 lb. shipping steers, \$5.50@6; best 1,000 to 1,100 lb. shipping steers, \$5.40@5.60; best fat cows, \$4.50@5; fair to good, \$3.75@4; trimmers, \$2.50@2.75; best fat heifers, \$4.50@5.50; light fat heifers, \$3.75@4; best bulls, \$4.50@4.75; bologna bulls, \$3.75@4.

The cow market today was fair on the best cows but slow on the common kinds. We quote: Best cows, \$40@50; medium, \$30@40; common, \$25@30.

The hog market ruled fairly active today with the best quality and weights pretty well cleaned up. There are a few loads of york weights going over unsold. Market closed steady and we think the prospects fair for the balance of the week.

We quote: Medium and heavy, \$7.35@7.40; mixed, \$7.30@7.35; best yorkers, \$7.25@7.35; light yorkers, \$7@7.15; pigs, \$6.60@6.70; roughs, \$6.40@6.50; stags, \$5@5.25.

Lambs sold today at the following prices. We look for lower prices the balance of the week, especially on lambs weighing around 90 lbs. It was almost impossible to get a bid on this kind today. There are about 15 loads of heavy lambs unsold tonight.

We quote: Top lambs, \$8.40@8.50; fair to good, \$8@8.25; culls, \$7@7.75; skin culls, \$5.50@6.25; yearlings, \$7@7.40; wethers, \$6.50@6.75; ewes, \$5.75@6.25; cull sheep, \$4@5.25; best veals, \$9.25@9.50; medium to good, \$7@9; heavy, \$4@5.50. Best calves closed at \$9.25.

Chicago.

April 5, 1909.

Received today 23,000 41,000 25,000
Same day last year 20,868 38,816 18,389
Received last week 47,072 125,960 65,360
Same week last year 41,705 135,093 60,722

Cattle are still depressed in price whenever there is any approach to normal receipts by the unusually small consumption of beef is a result of its dearthness. For the same reason the export trade in cattle is unusually small in volume week after week. Last week there was a weak undertone to the market most of the time, and this was apt to extend to good cattle. Beef steers sold chiefly at a range of \$4.75@5.50 for ordinary light-weight killers and at \$6.50@7 for the better class of heavy shipping beefs, with several transactions in fancy cattle on Monday at \$7.05@7.35, cattle of this class falling to show up on other days. The greater part of the steers crossed the scales at \$5.60@6.70, lots that were called good selling at \$6.25@6.50 and exporters making most of their purchases at \$6@6.50. Butcher stock was relatively in better shape than steers, with a good demand for cows and heifers at \$3.30@6.25. Canners and cutters had a fair sale at \$2@3.25, bulls selling at \$3@5.25. Calves were active at \$3.50@8.50 per 100 lbs., choice lots ruling higher. There was a moderate trade in stockers and feeders at \$3@5.50, a large part of the sales being at \$4@5. As usual, choice feeders were offered sparingly and were held too high to suit the ideas of the average stockmen. Live stock commission firms are advising their country patrons to avoid the highest-priced feeders and to buy the next best grade. Milch cows sell at \$25@60 per head.

Today's too large supply of cattle caused an average decline of 10@15c except for the best steers and heifers. Prime beefs were quotable at \$7.

Hogs are good property these times, and owners who market immature hogs and healthy pigs are making a great mistake. It is pretty well known that country feed lots hold fewer cattle, hogs and sheep than usual, and ruling prices for all these kinds of live stock are high, the only drawback being decreased consumption of beef, mutton and fresh and cured hog meats as a result of their unusual dearthness. The average weight of the hogs coming to this market is increasing weekly, and it has risen at last to 209 lbs., compared with 201 lbs. a few weeks ago, 212 lbs. a year ago and 226 lbs. two years ago. Little change is seen in the ruling features of the hog market at this time, and there is still a very firm undertone to prices as a result of no over large supplies and a large demand from eastern shippers, as well as from the Chicago packers and butchers. Hogs are showing up quite well in quality, and medium weights are especial favorites, shippers calling for a good many hogs averaging around 220 lbs. Prospects appear good for the future. Little change was seen today, hogs selling again at \$6.65@7, with light hogs selling at \$6.65@7.10.

Sheep and lambs have been selling unusually well recently, at least so far as the choicer lots were concerned, for while the average receipts were apt to be normal in volume, at no time of late has there been a sufficient supply of good fat consignments. Prime woolled Colorado lambs have made a new high record by bringing \$8.40 per 100 lbs., the best price touched since June, 1907. The best shorn lambs went at \$7.25, and the spread in prices between shorn and woolled flocks has widened out to \$1@1.25 per 100 lbs. A limited number of extra fine 158-lb. woolled ewes went at \$7.25, but such sales cut very little figure, with \$6.75 practically the top for woolled wethers. The first

spring lambs of the season arrived and sold at \$8.75@9 per 100 lbs. They averaged from 54 to 57 lbs. Sheep were a little lower today, and lambs were called 15@25c lower, the receipts being larger than usual. Woolled lambs sold at \$6.50@8.25, the best clipped lambs selling at \$6.90. Woolled ewes sold at \$3@6.45, wethers at \$5.60@6.75, yearlings at \$6.50@7.50 and rams at \$4@5.

Horses that were not especially desirable in quality have sold recently in quite a number of instances \$5@10 per head lower, with too many of that class offered, but high-grade horses sold as well as ever, with a good general demand. Farm chunks and mares are still active at \$130@175 and upward to \$200 for a few extra choice mares useful for breeding purposes. Drafters have been selling very well at \$175@225, and now and then at \$250 or even higher. Drivers are still good sellers at \$140@350, while mules are wanted at \$75@200.

LIVE STOCK NOTES.

The position of the American provision trade is rendered much stronger than usual by the fact that the general distributive trade pursued a hand-to-mouth policy during the past winter on account of what were regarded as inflated prices for hog products of all descriptions. This sentiment prevailed so generally that hardly any provisions were bot ahead, and since then they have been compelled to purchase at further advances. Just now there is every indication of a good southern trade, and under all the circumstances selling provisions "short" by speculators does not look like a safe thing to do. The stocks of provisions in Chicago warehouses on April 1 stood at 152,301,727 pounds, compared with 148,998,356 pounds a month ago and 174,787,420 pounds a year ago.

Word comes from St. Joseph, Mo., that the feed lots in the territory adjacent to that market have disposed of most of their cattle and that that market will have to depend on Colorado for the bulk of its cattle supply from now on. Reports come from Kansas that only about one-third as many cattle are on feed as a year ago. Three-fourths of them will be marketed in the next fortnight, with the greater part weighing from 1,300 to 1,500 pounds. Even in Oklahoma the dearthness of feed is causing the stock feeders to sell their cattle as fast as market conditions will warrant. It is stated that fully three-fourths of the cattle fed in that section have been marketed, and there will be a serious shortage of cattle to be fed meal cake or corn on grass this spring.

After the middle of this month, it is expected that few Colorado lambs will be seen in the eastern markets. For several weeks these lambs have been coming east in large numbers and have been in excellent demand at good prices. It is stated on good authority that Senator Drake, who put in 30,000 lambs last autumn, will come out with profits of from 50 cents to \$1 per head, and this will more than make good his severe losses of a year ago. Both sheep and lambs have been selling extremely well of late in the leading markets of the country, with buyers giving a strong preference to woolled consignments, for wool is a big item these times. The southern states report a big "crop" of spring lambs, and reports come from Idaho that March lambing has been on an unusually large scale. E. L. Kerns, of Jersey City, who has made a recent investigation says: "There is a big crop of spring lambs in the south this year. From what I can learn the increase over last year in the Virginias, Maryland, Kentucky and Tennessee is 10 to 15 per cent. The quality, however, is not as good as usual, owing to the lack of green, succulent feed. Weather conditions were bad all winter, and little wheat was up even by Christmas because of the long and blasting dry spell last fall."

American consumers are making vigorous objections to the unusually high prices asked for meats in the retail markets, and consumption of beef, mutton, bacon, hams, etc., is necessarily materially curtailed simply by the inability of thousands of families to pay the prices prevailing. The industrial situation is very far from satisfactory, with sharp cuts in wages made by the great iron and steel corporations and other cuts expected. These things stand in the way of further advances in meats and in live stock. At the same time there is a firm undertone in hogs and sheep, and cattle are still selling on an average extremely high as compared with most former years. The hog market has been in an extremely poor condition recently, with scarcely enough hogs marketed at western points to meet the pressing requirements of the trade. The big bull factor in the Chicago hog market is still the large eastern demand for hogs of the better class. The eastern sections of the United States no longer breed enough hogs for home consumption, and after the eastern grown swine are marketed the west has to supply great numbers to make up the deficit.

"While it is true that there is much complaint by consumers of the high price of beef, and while it is also true that liberal supplies of beef cattle could not be disposed off at even present prices, it is by no means impossible that higher prices may come thru extreme scarcity before any considerable number of grass cattle appear," says a prominent Chicago live stock commission firm. "The cattle fed on cotton-seed meal have about all been marketed, and the Colorado and Montana 'hay-feds' will go mostly to the Pacific coast. The weather has been very dry in Texas, and so the grass cattle from the southwest may be later than last year. Then, too, the season of Lent is over, which may add a little to the volume of consumption of beef. The English markets are now at the highest figures yet reached; our quarantined ports are now all opened, and exporters are doing some business. All these factors seem to point to continued good and perhaps higher prices for the next two months at least."

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 8, 1909.

Cattle. Receipts, 1,207. Market dull and 10¢ 15¢ lower than last week.

We quote: Extra dry-fed steers and heifers, \$5.50; steers and heifers, 1,000 to 1,200, \$5.25@5.60; steers and heifers, 800 to 1,000, \$5@5.40; grass steers and heifers that are fat, 500 to 700, \$5; choice fat cows, \$4.50; good fat cows, \$4; common cows, \$3@3.25; canners, \$1.75@2; choice heavy bulls, \$4@4.25; fair to good bolognas, bulls, \$4; stock bulls, \$3.75; choice feeding steers, 800 to 1,000, \$4.50@4.75; fair feeding steers, 800 to 1,000, \$4@4.25; choice stockers, 500 to 700, \$4.25@4.50; fair stockers, 500 to 700, \$4; stock heifers, \$3.50; milkers, large, young, medium age, \$4@5.50; common milkers, \$2.50@3.50.

Spicer, M. & R. sold Hammond, S. & Co. 3 butchers av 666 at \$3.35, 1 bull weighing 900 at \$4, 5 steers av 760 at \$5.10, 11 butchers av 866 at \$3.60, 1 bull weighing 1,450 at \$4, 5 steers av 790 at \$5.10, 6 cows av 991 at \$3.75; to Morgan 4 stockers av 492 at \$4; to Newton B. Co. 8 steers av 805 at \$5.15; to J. Green 2 bulls av 525 at \$3.25, 2 do av 525 at \$3.25; to Kamman B. Co. 20 steers av 994 at \$5.40, 1 cow weighing 1,220 at \$4.

Bishop, B. & H. sold Caplis 14 steers av 843 at \$5.35, 3 do av 1,256 at \$5.75, 6 do av 911 at \$4.50; to Mich. B. Co. 3 cow and bull av 1,240 at \$4.50, 2 cows av 850 at \$3, 1 heifer weighing 630 at \$4, 2 steers av 795 at \$5, 2 cows av 950 at \$3, 1 do weighing 950 at \$4.50, 1 bull weighing 1,180 at \$4; to Kamman B. Co. 15 steers av 931 at \$5.25; to Thompson Bros. 6 cows av 1,055 at \$4; to Hammond, S. & Co. 5 do av 1,056 at \$4.25, 3 do av 953 at \$3, 8 butchers av 675 at \$4.50, 2 do av 625 at \$4.50; to Sullivan P. Co. 1 bull weighing 1,550 at \$4.25, 1 do weighing 1,510 at \$4, 1 do weighing 1,740 at \$4.25; to H. Greene, 2 cows av 1,055 at \$3, 3 do av 853 at \$3, 2 do av 1,090 at \$3, 3 do av 1,043 at \$3.50; to L. Kull 11 steers av 945 at \$5.40, 2 bulls av 1,175 at \$4, 2 steers av 800 at \$4.25, 1 bull weighing 1,440 at \$4.50; to Regan 4 steers av 700 at \$4; to Sullivan P. Co. 11 heifers av 773 at \$4.75, 1 steer weighing 1,280 at \$5.50.

Roe Com. Co. sold Mich. B. Co. 1 cow weighing 800 at \$3.75, 1 do weighing 1,020 at \$4, 11 steers av 818 at \$5; to W. Kamman 4 do av 952 at \$5.50; to Fry 8 butchers av 860 at \$4.25, 1 cow weighing 860 at \$2.50; to Newton B. Co. 13 steers av 1,077 at \$5, 1 cow weighing 880 at \$2.75; to Thompson Bros. 10 heifers av 860 at \$5.15; to W. Kamman 1 do weighing 1,180 at \$5, 17 steers av 970 at \$5.50.

Spicer, M. & R. sold Caplis 27 butchers av 740 at \$4; to Regan 6 heifers av 360 at \$4; to Hammond, S. & Co. 2 cows av 875 at \$3.75, 6 butchers av 670 at \$4.50; to W. Greene 1 cow weighing 900 at \$2.25; to Morgan 2 stockers av 385 at \$3.25.

Stephens sold Thompson Bros. 1 bull weighing 920 at \$3.60, 2 cows av 905 at \$4. Mertz sold Fitzpatrick Bros. 5 steers av 980 at \$5.50, 2 heifers av 690 at \$4. Weeks sold same 3 cows av 690 at \$3.25. Groff sold Kull 6 butchers av 716 at \$4, 3 steers av 793 at \$5.40.

Stephens sold Mich. B. Co. 15 butchers av 750 at \$5.05.

Enger sold Hammond, S. & Co. 14 steers av 815 at \$5.15.

Axtel sold same 3 steers av 83 at \$5, 14 butchers av 1,100 at \$3.75.

G. J. Smith sold same 2 bulls av 1,325 at \$4.

Wagner sold Newton B. Co. 17 steers av 1,112 at \$5.75, 3 do av 680 at \$4.50.

McAninch sold Regan 2 cows av 930 at \$3.

Veal Calves.

Receipts, 961. Market steady with Wednesday, 25¢ higher than last Thursday. Best, \$8@8.75; others, \$4@7.50.

Bishop, B. & H. sold Danbowski 2 av 130 at \$8.25, 7 av 120 at \$7.50; to Nagle 35 av 135 at \$7.75, 2 av 125 at \$8.50; to Parker, W. & Co. 32 av 120 at \$8, 21 av 133 at \$8; to Newton B. Co. 21 av 135 at \$8.25, 2 av 130 at \$7.50, 4 av 95 at \$5, 29 av 125 at \$8.25; to Mich. B. Co. 33 av 130 at \$8.25; to Hammond, S. & Co. 7 av 140 at \$8.25; to Caplis 2 av 115 at \$7, 5 av 120 at \$7.75, 2 av 115 at \$7.50, 8 av 150 at \$7.75; to Parker, W. & Co. 11 av 120 at \$7.75, 8 av 125 at \$8, 8 av 115 at \$8, 3 av 120 at \$7.75, 5 av 150 at \$8, 2 av 130 at \$8; to Rattkowsky 1 weighing 320 at \$4; to Hammond, S. & Co. 6 av 100 at \$5, 23 av 140 at \$8.25, 14 av 135 at \$8.50, 5 av 140 at \$8, 3 av 150 at \$8.50, 5 av 125 at \$8.50; to Parker, W. & Co. 7 av 175 at \$8.75.

Roe Com. Co. sold Thompson Bros. 8 av 120 at \$7, 25 av 130 at \$8.50, 2 av 150 at \$7.

Spicer, M. & R. sold Daumbowsky 9 av 127 at \$6.25, 4 av 220 at \$4; to Mich. B. Co. 8 av 115 at \$7.25; to Sullivan P. Co. 27 av 125 at \$6.90; to McGuire 9 av 110 at \$7.65; to Nagle 5 av 150 at \$6, 40 av 135 at \$8.

Axtel sold Sullivan 1 weighing 100 at \$6.50, 6 av 115 at \$6.50.

Robb sold same 5 av 165 at \$7.75.

Torrey sold same 14 av 125 at \$7.75.

Kendall sold same 15 av 140 at \$8.

McAninch sold Hammond, S. & Co. 18 av 135 at \$7.25, 2 av 260 at \$3.50.

Dwelle sold Burnstine 28 av 135 at \$7.50.

Bradley sold McGuire 2 av 125 at \$7.50.

Mertz sold Fitzpatrick Bros. 5 av 115 at \$5, 22 av 125 at \$7.50.

Groff sold same 15 av 127 at \$7.70.

Carmony sold Newton B. Co. 1 weighing 150 at \$8.

Mayer sold same 3 av 140 at \$7.50, 1 weighing 140 at \$6.

Weeks sold Parker, W. & Co. 4 av 115 at \$6.75.

Stephens sold Mich. B. Co. 4 av 120 at \$7.50.

Long sold Nagle 6 av 150 at \$8.

Sheep and Lambs.

Receipts, 3,049. Market steady with Wednesday, 15¢ lower than last Thursday. Best lambs, \$7.75@8.10; fair to good lambs, \$7@7.50; light to common lambs, \$6.50@7; yearlings, \$6@6.75; fair to good sheep, \$5.50@6; culls and common, \$3.50@4; clips, \$6@6.85.

Bishop, B. & H. sold Sullivan P. Co. 104 lambs av 80 at \$7.75, 37 do av 65 at \$7, 12 do av 90 at \$6; to Mich. B. Co. 83 do av 78 at \$7.75; to Parker, W. & Co. 5 sheep av 60 at \$6, 150 lambs av 83 at \$8; to Newton B. Co. 1 buck weighing 150 at \$2.50, 2 sheep av 130 at \$4, 9 lambs av 75 at \$7; to Hammond, S. & Co. 21 clip lambs av 80 at \$6.75, 13 do av 75 at \$6.75, 2 sheep av 115 at \$4.50; to Nagle 441 lambs av 83 at \$8, 199 do av 80 at \$7.90, 160 do av 90 at \$7.85, 40 sheep av 125 at \$5.50; to Fitzpatrick Bros. 21 do av 120 at \$5, 50 lambs av 82 at \$7.80; to Newton B. Co. 1 sheep weighing 140 at \$5, 5 lambs av 73 at \$7, 86 do av 90 at \$8; to Fitzpatrick Bros. 1 buck weighing 210 at \$5, 93 lambs av 92 at \$8, 7 sheep av 105 at \$5.50; to Mich. B. Co. 60 lambs av 80 at \$8.10; to Young 37 do av 90 at \$8, 23 do av 90 at \$7; to Hammond, S. & Co. 64 clip lambs av 85 at \$6.90.

Carmony sold Eschrich 57 lambs av 73 at \$7.70.

Mayer sold Fitzpatrick Bros. 8 sheep av 88 at \$5, 34 lambs av 75 at \$6.80.

Groff sold Thompson Bros. 6 sheep av 130 at \$5.25, 28 lambs av 80 at \$7.50.

Henderson sold Newton B. Co. 30 clip lambs av 73 at \$6.50.

Roe Com. Co. sold Thompson Bros. 9 lambs av 82 at \$7.50.

Axtel sold Sullivan P. Co. 13 lambs av 75 at \$6.50.

McAninch sold Greene 3 lambs av 72 at \$7, 2 sheep av 110 at \$3.50.

Spicer, M. & R. sold Mich. B. Co. 6 clip sheep av 130 at \$4.75; to Fitzpatrick Bros. 14 lambs av 75 at \$6.75, 1 buck weighing 130 at \$3.50; to Thompson Bros. 22 lambs av 60 at \$7.65, 2 sheep av 90 at \$5; to Eschrich 43 mixed av 55 at \$4.50.

Robb sold Nagle 2 sheep av 120 at \$5, 20 clip lambs av 60 at \$6.40.

G. J. Smith sold same 232 lambs av 83 at \$7.85.

Long sold same 24 clip lambs av 85 at \$6.75, 5 clip sheep av 90 at \$5, 4 do av 135 at \$3.50.

Hogs.

Receipts, 4,557. Market 15¢ 25¢ higher than last Thursday.

Range of prices: Light to good butchers, \$7.15@7.25; pigs, \$6@6.40; light yorkers, \$6.60@6.75; stags, ¼ off.

Spicer, M. & R. sold Hammond, S. & Co. 284 av 170 at \$7.15, 67 av 171 at \$7.20, 174 at 172 at \$7.25.

Sundry shippers sold same 389 av 190 at \$7.25, 63 av 160 at \$7.15, 173 av 156 at \$7.20, 59 av 181 at \$7.10.

Bishop, B. & H. sold same 230 av 180 at \$7.15.

Roe Com. Co. sold same 60 av 150 at \$7.25, 27 av 210 at \$7.20, 38 av 130 at \$6.75.

Bishop, B. & H. sold Parker, W. & Co. 256 av 170 at \$7, 1,071 av 190 at \$7.25, 796 av 180 at \$7.20.

Roe Com. Co. sold same 43 av 160 at \$7.10.

Sundry shippers sold Sullivan P. Co. 110 av 185 at \$7.25, 130 av 127 at \$6.80, 146 av 175 at \$7.15, 85 av 190 at \$7.30, 173 av 168 at \$7.20.

April 2, 1909.

Cattle.

Receipts, 41. Market steady at Thursday's prices.

We quote: Extra dry-fed steers and heifers, \$5.60@5.75; steers and heifers, 1,000 to 1,200, \$5.35@5.75; steers and heifers, 800 to 1,000, \$5.25@5.50; steers and heifers that are fat, 500 to 700, \$5@5.25; choice fat cows, \$4.50@5; good fat cows, \$4@4.25; common cows, \$3@3.50; canners, \$1.75@2.25; choice heavy bulls, \$4@4.50; fair to good bolognas, bulls, \$4; stock bulls, \$4; choice feeding steers, 800 to 1,000, \$4.50@4.75; fair feeding steers, 800 to 1,000, \$4@4.25; choice stockers, 500 to 700, \$4.25@4.50; fair stockers, 500 to 700, \$4; stock heifers, \$3.50@4; milkers, large, young, medium age, \$4.50@5.50; common milkers, \$3@4.

Bishop, B. & H. sold Hammond, S. & Co. 2 steers av 980 at \$5.25.

Same sold Bresnahan 2 heifers av 665 at \$3.25.

Same sold Thompson 3 steers av 1,020 at \$5.60.

Veal Calves.

Receipts, 60. Market 25¢ higher than on Thursday.

Best, \$7.75@8.50; others, \$4@7; milch cows and springers steady.

Bishop, B. & H. sold Bresnahan 15 av 140 at \$8.50, 2 av 100 at \$5, 2 av 90 at \$5, 10 av 135 at \$8.50.

Same sold Markowitz 4 av 190 at \$5, 6 av 150 at \$8.50.

Sheep and Lambs.

Receipts, 7. Market steady at Thursday's prices; quality common.

Best lambs, \$8; fair to good lambs, \$7.25@7.75; light to common lambs, \$6@7; yearlings, \$6.50@7; fair to good sheep, \$4@6; culls and common, \$3@4.

Bishop, B. & H. sold Nagle 227 lambs av 85 at \$8.05.

Hogs.

Receipts, 353. Market steady at Thursday's prices.

Range of prices: Light to good butchers, \$6.90@7; pigs, \$6@6.25; light yorkers, \$6.50@6.75; stags, ¼ off.

Lucke sold Parker, W. & Co. 81 av 185 at \$7.

Bishop, B. & H. sold same 155 av 190 at \$7.

Same sold Sullivan 21 av 160 at \$6.60, 58 av 130 at \$6.50, 26 av 125 at \$6.40.

Same sold McDonald 21 pigs av 115 at \$6.25.

ADDITIONAL VETERINARY.

Poison.—I have lost four or five ewes each year, out of flock of about 125, from not lambing at proper time. Lambs were no doubt dead before ewes had them. These ewes lingered along from four to six days, suffering from an offensive watery discharge from vagina. In a few cases I have taken lambs away, but ewes die just the same. One of my best ewes is now sick and I have lost three already. W. J. G. Mendon, Mich.—Ewes die from septic poison; no matter how well they are taken care of or who treats them, they will sometimes die. Give each sheep five drops creosote in a teaspoonful sweet oil three times a day; dissolve 1 oz. sulfate zinc in 3 qts. tepid water and use for washing out vagina and uterus twice a day. This is best done thru a rubber hose or with a fountain syringe. Coal tar disinfectant one part in 30 parts water will also answer the purpose very well.

Dropsy—Warbles. — Fourteen-year-old horse seems out of condition; eats plenty but fails to digest food. I judge this is the case, for I notice corn and oats pass him whole. Had his teeth floated about four weeks ago but this has not helped him. Also have a yearling steer on whose back I find a lot of bunches the size of a small hickory nut; they seem to hurt him. F. F. O. Fowlerville, Mich.—Feed horse good feed; cut his hay or fodder and give him a tablespoonful fluid extract cinchona and a teaspoonful Fowlers solution at a dose three times a day until the gets in good condition. The steer has warbles or grubs in back. See treatment for grubs in another part of this department.

Indigestion.—Ten-year-old gelding has always been healthy until a month ago. First, I noticed his belly was swelled to an unusually large size; it seems not to go down. His appetite is poor, sheath is swollen, water scant and high colored, eyes are dull and is very dumpy. His coat is rough, and he has not lain down for some time; when exercised his wind gives out. I have fed mostly clover hay, oats and corn. Consulted a Vet., who floated his teeth, but it has failed to help him. D. C. G., Grand Ledge, Mich.

—Give 20 grs. calomel two or three times a week for two weeks; also give 1 dr. powdered buchu, 2 drs. rosin, ½ oz. ground gentian at a dose in feed two or three times a day. Feed some vegetables and, if the bowels are not loose enough, give a pint of raw linseed oil every day or two until they open.

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HOME AND YOUTH

WHAT GRANDMA KNEW OF EASTER TIME.

BY CORA A. MATSON DOLSON.

Our Grandma told us lots of things
Of Easter long ago;
How angels came with shining wings
And robes as white as snow.

They rolled the cruel stone away
That hid our Christ from sight;
And that is why glad Easter Day
Follows the Lenten Night!

But Grandma went to sleep last May,
Herself, with hair like snow,
And all the things she used to say
Seem long and long ago.

I wish, when Easter time comes round
And Easter lilies flower,
Angels would call her from the ground
To stay with us one hour.

I'd rather hear what Grandma knows
Of Easter, than to wear
Of all, in church, the prettiest clothes
With diamonds in my hair!

KITTY'S EASTER OFFERING.

BY FRANK H. SWEET.

The shade was grateful, for the September sun was unseasonably warm. With a sigh of weariness, Lou settled herself in a corner of the broad conservatory steps and drew her crutch out of the way of the laughing groups of students, passing in and out. Across the street, the dusty trees of the park stood glorified in the web of golden sunlight cast about them. They were vastly more attractive as a resting place than the hard step, one would think, yet this was the child's favorite haunt.

There was, in her mind, good reason for it. From the open windows above floated out the sounds of music, to mingle with the city's roar.

So familiar had grown the poor little twisted form, with the patient child face above it, that her presence occasioned no surprise among the gay students, and many smiled a friendly greeting.

From the nearest window sounded the tones of a violin, and, as the bustle outside grew less, the music became proportionally louder. Pretty Katherine Beacham was struggling with the second lesson of the term.

The little lady was not in the sweetest of moods. She looked upon a violin lesson, so soon after the glorious freedom of a summer vacation, as an imposition. The summer's outing had stolen from her some of the skill of her fingers, which stubbornly refused to obey orders.

"Oh, no! It goes not so, mees! You do not attention pay!" Herr Krebs groaned, his patience almost exhausted.

Kitty pursed her rosy lips a little defiantly, and attacked the offending cadenza once more—a rosy danger-signal in her cheeks and an angry sparkle in the brown eyes.

Again the fingers tripped on the troublesome fingering, while the last note scraped most dolefully.

Herr Krebs shrugged his shoulders as he settled his violin in place. The little contemptuous gesture did not escape Miss Kitty's sharp eyes. She listened angrily while the professor played the passage skillfully.

"It is not so hard! Now you will vonce more play, and do not look around your shoulder!"

This was the last straw. Kitty banged the exercise book together and unscrewed her bow with vigor.

"It's no use, Herr Krebs. I cannot play it, so I'll go home."

He smiled a little scornfully. "You vill play me the same lesson Thursday. Goot afternoon."

He bowed low, with sarcastic politeness, as he held the door open.

As Kitty rushed angrily down the steps, the little crutch lay in her way. With her foot she sent it spinning into the street. Then she went to recover it, and brot it back to the startled owner. It was the work of a moment, but in that moment her anger had taken flight.

"I'm so sorry!" said Kitty. "I hope I have not hurt it."

She looked anxiously into Lou's startled blue eyes.

"Oh, not at all!" Lou exclaimed, eagerly, a wave of color rushing up to the brim of her old brown hat. She was overpowered with delighted surprise that this pretty girl should speak to her. "It is very strong—and anyway, it has to be," she said, with a little sigh.

Kitty was much embarrassed, but she made no move towards going.

I should think you would find the stone

steps hard to sit upon," said Kitty. "Don't you like the park?" She looked across to where the fountain leaped in the sun.

"Yes, but there's the music here." Lou suddenly realized that she had been eavesdropping, for she had heard more than the music. "How you must enjoy it!" she added, hastily.

Five minutes before, Kitty had thot she did not enjoy it. The girl's earnestness brot out the real truth in her answer: "Yes, I do—more than anything else. But perhaps you wouldn't think so if you had heard me quarrelling with my teacher—or did you hear?" she added, quickly, noting the open window and the conscious look in her new friend's eyes.

Lou blushed. "I'm so sorry, but I couldn't help hearing. Your voices were so loud."

"It was only a specimen of my naughty temper," Kitty said, and laughed to cover her confusion. "It makes me a great deal of trouble, especially with my music—for one needs all one's patience in that. But he was aggravating!"

"Is it the teacher with the light hair and kind eyes? He looks so tired, these warm days, after giving so many lessons. But I shouldn't think you would mind it, when you play so beautifully."

The girl here extended her hand carressingly toward the violin case.

"Would you like to play the violin?" asked Kitty, absently. Her conscience smote her at the thot of the wearisome round of lessons Herr Krebs had to endure. She nodded to a girl who passed in at that moment. It was Miss Jackson, whose hour followed her own, and against whom Kitty had conceived a jealous prejudice.

"I couldn't play it," said Lou, her voice trembling. "Since I hurt my back I cannot do much anyway."

"Oh, forgive me! I didn't think what I was saying," cried Kitty, remorsefully. "To tell the truth, I was thinking of my rudeness to Herr Krebs. Could I leave my violin with you a moment?"

The girl took it eagerly, and Kitty hastened back into the cool hall, fearing that her courage would not hold out until she reached Herr Krebs's room. Why had she not gone back before Miss Jackson arrived? She knocked hastily. If only Herr Krebs would come to the door! No, it was Miss Jackson's wondering eyes that she saw, and, beyond, the cool surprise of her teacher.

"I hope you will pardon my rudeness this afternoon, Herr Krebs," said Kitty. "Indeed, I am much ashamed of myself."

Kitty stood, very heated and shamefaced, before the astonished teacher.

"My dear Mees Kitty, don't mention it! I, too, should apologize that I haf so little patience," replied Herr Krebs. He bowed to her as she withdrew, with a very different air from that which he had used so short a time before.

When Kitty reached the door once more, Lou was adjusting her crutch. The afternoon was waning, and her mother would soon return from her day's sewing. She started down the street with Kitty at her side. As she walked, Lou told something of the cruel accident which had crippled her in her early childhood, and which was slowly sapping her strength.

"You must come to see me," said Kitty, "and I will play to you as much as you like. Perhaps you will come next Thursday after my lesson; I should be very glad to have you!"

"Oh! I should like to so much! If I am able to be out I will wait upon the steps. Sometimes the pain is so sharp that I cannot sit up."

When Thursday came, Lou was at her post, and Kitty led her in triumph to her mother, whose kind heart went out to the shy girl.

This was the beginning of many happy days for Lou. Curled in a corner of the music room, she would listen while Kitty played to her mother's accompaniment on the piano. Things went better in the lame girl's poor home, for Kitty's enthusiasm led her to make many sacrifices of her time and pleasure in Lou's behalf.

The winter came and passed. Lou's admiration spurred Kitty to greater efforts, and Herr Krebs was astonished at his pupil's progress.

Mrs. Beacham sat before the library fire one blustering March evening, waiting for her daughter. Her thots were upon Lou, who, in spite of loving care, grew weaker every day.

Kitty came in, rosy and breathless from her walk in the wind.

"How did you find her?"

"I'm afraid she is not so well, mamma," Kitty curled herself upon the rug and settled her head comfortably against her mother's knee. "What did Dr. Loomis say? Surely, she will be better when the warmer days come."

"I'm afraid, my dear, that little Lou will never be better," Mrs. Beacham stroked her daughter's brown hair lovingly, her heart full of pity for the other mother who was trying to look bravely upon a coming grief.

Kitty was silent. A lump rose in her throat, and the fire glistened thru her tears.

"Dr. Parker was here this afternoon," said her mother presently. "He wished much to see you. The committee are arranging the Easter program. Miss Stafford is to sing, and Dr. Parker wishes you to play the violin obligato."

"Mamma!" Kitty sat upright on the rug, with an incredulous face. "Of course you told him it was impossible!"

"I told him you must decide."

"But, mamma—to play in church before the people I have known all my life! Oh! it would be impossible!"

"I objected to the prominence it would give you, but the doctor said it could be arranged so that you need not be visible, and none need know who was playing. The doctor was very urgent; he had seen Herr Krebs, who told him you were fully capable of accompanying Miss Stafford. I thot, dear," she said, as she looked down into Kitty's troubled eyes, "that you might make it your Easter offering."

All thru the evening Kitty sat in a brown study which her mother did not disturb. Kitty was having a struggle with herself. It was quite a different matter to play in the conservatory recitals; she had grown accustomed to those. But the church, with its great arches, its solemn-toned organ, its pulpit wreathed and hidden with masses of Easter bloom, and, ringing over and thru it all, Miss Stafford's pure voice with its undercurrent of sadness! Kitty could hear and see it all. She always felt the tears spring when Miss Stafford sang; how could she venture to support that glorious voice—to weave about it the tender notes of her instrument. But what was it that mamma had said about an Easter offering?

After Kitty had gone to her room for the night, Mrs. Beacham heard her calling, softly, in the hall: "If you think it best, and Herr Krebs says I am competent, why, mamma, I will try," she said.

Now that she grew accustomed to the idea it did not seem such a trial; and when the rehearsals began, and Miss Stafford praised her accompaniment, she played with a feeling of elation. Her Easter offering bade fair to be no sacrifice at all, but a gratification.

Of all this Lou heard nothing. Each morning found her so tired, with the pain of the night, that she no longer made an attempt to hobble about the two small rooms, but lay quietly, watching the slowly moving clouds above the opposite chimney-tops, or the sickly sunbeams which flickered over the gay quilt.

Her bright hours were those in which Kitty, perched on the bedside, played softly the music Lou loved so well, or when Mrs. Beacham cheered her with her sweet presence, always bringing some dainty surprise for the little invalid.

Yet Lou knew that life was slipping from her grasp. She could read it in her mother's sad eyes, and in her soft sobbing when night came down.

Easter morning was as bright as even an Easter morning can be. To Kitty's eager eyes, as she peeped thru the soft silk curtains, it seemed like a new world. It was late in April, and the air was already balmy with a breath of spring. The parks were decked in their bravery of early hyacinths, and tulips thrust up glowing cups to greet the dawn. The churches would be well filled on such a day, and Kitty's heart gave a little bound of excitement.

Coming down the wide stairway, in her soft gray dress, with the golden light from the stained glass behind her, Herr Krebs thot her a most winning sight.

"Why, good morning, Herr Professor!" cried Kitty, as she ran down the remaining stairs. "How good of you to come and screw up my courage! Are these for me?"

With a quaint little bow the musician handed her a cluster of blue violets. "It is a bit of the spring itself," she said, and buried her nose in the flowers.

"Ah, mees, I have the hope that you do not feel timid. Dere is no need! I am not timid for you." He beamed broadly upon his promising pupil.

"Oh, I have only a little scary feeling,

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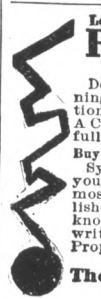
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now and then. I practiced very hard, last evening, and all went well. Yes, Emily, what is it?" she added, as a servant came near.

"The mother of your little friend was here early, Miss Katherine, and asked to see you. She told me to tell you, when you came down, that Lou is failing very fast and asks constantly for you. I asked her to stay, miss, until she had seen you, but she did not dare to wait a moment."

"Oh, mamma! Did you hear? And I haven't been there for two days! I was so busy with this music!"

Kitty turned helplessly to her mother, who appeared in the doorway. "What shall I do? The first bells will ring in half an hour. Dr. Parker told me to come early, but there is Lou watching for me!"

Kitty stood in the middle of the hall, looking up at the golden glory from the window on the stairs. Her mother and Herr Krebs watched her anxiously, for there were signs of an inward struggle on her face.

Ambition and inclination drew her strongly in one direction; in the other, a pale, wasted, childish face, with its patient blue eyes, appealed to her. She knew how wistfully those eyes would watch the door, and how the quick ear would listen for a footstep which did not come.

With a quick throb of her heart she felt that here was the offering that she must make; not of talent, where an admiring congregation should smile its approval, but the same gift of sweet harmony to soothe the anguish and gladden the heart of one of the Master's "little ones."

Thrusting out her hands quickly, as if putting away the dream that this day was to realize, Kitty bravely made her sacrifice.

"Mamma," she said, "it would never do to let Lou wait so long. You will not be disappointed, will you? Miss Jackson will take my place; she has played the same obligato many times at the conservatory. There is time to let her know. I think she will be willing."

Kitty flew up the stairs. For a moment Herr Krebs and Mrs. Beacham looked silently at each other.

"You are disappointed, I fear," said Mrs. Beacham, "but Kitty has chosen rightly. Do you think the matter can be arranged?"

"I will play it myself, as a substitute. Mees Kitty is a good girl!"

When Mrs. Beacham and Kitty reached Lou's home they found her propped up with her head upon her mother's shoulder. A change had come, and the great eyes were filled with new meanings. She smiled faintly.

"I knew—you'd—come," she whispered. "Play—once more!"

Kitty did play, as her mother had never heard her play before. Tears filled the brown eyes, but the fingers did not falter, nor the hand tremble that drew the bow across the answering strings.

There was a slight rustle in the room. Mrs. Beacham softly laid her hand upon the strings. Startled, Kitty looked up, and read the truth in the agonized face of Lou's mother.

The sunshine fell upon the pale face, the shining hair, the closed eyes. Lou had gone to the Father, taking with her Kitty's Easter offering.

SIGNIFICANCE OF EASTER.

BY CARRIE SCHUMANN.

To most people Easter has only a traditional importance or significance. A great many years ago Christ rose from the dead. This miraculous event as it is called, has been commemorated ever since by the observance of Easter Sunday. With some people it is a more sacred occasion than George Washington's birthday, but with the Christian world it is simply a day held in remembrance on account of a most exceptional experience. With worldly people it means a new dress or bonnet, or perhaps both.

All nature is expected to smile at Easter time and it usually fulfills our hopes, altho the wind may blow a little sharply, disarranging our feathers and preventing the fullest realization of pleasure in our new promenade costumes. A bright, pretty girl was asked, "What does Easter mean to you?" She replied, "It means the loveliest clothes of all the year and very often it means a horrible disappointment, for sometimes it is so cold I can't wear them. But it is great fun buying and having them made up anyway." It doesn't occur to her that

Easter stands for the resurrection of the Savior.

At this period of the year the whole world holds a thot of change. The trees and shrubs are putting forth their best efforts for the beauty of the summer to come, the flowers are getting their colors in order, the keen wind is softening and everything external that the eye can see is arousing to new life and power.

There are many customs and ceremonies peculiar to Easter that have almost entirely died out and many have been forgotten. The most common and therefore the one most likely to be remembered is the use of the Easter egg. This custom is of very ancient origin. It has been traced back to the early Egyptians, Greeks, Persians and Gauls. The egg was regarded by all these nations as the origin of life and was used to symbolize the revival of life in the spring.

Almost every nation has a custom peculiarly its own relating to Eastertide. In Germany the children build nests on Easter eve for the Easter rabbit, (which is supposed to come in the night and lay eggs), and they are very proud of the beautiful eggs found in the nest next morning. Here are a few lines relating to the rabbit which are familiar to most German children:

Mr. Rabbit sits with his specs on his nose
Painting Easter eggs with his toes;
Little he knows and little he cares;
Sunshine or shadow, he'll finish his wares.
Then he gives them away, just as he should.

To boys and girls who are always good.
Then away he bobs to the forest green
And Mr. Rabbit is no more seen,
Until Easter again is at our door,
Then he'll return to his work once more.

Even today in some parts of France the priest visits the homes of the people on Easter Sunday and in return for blessings bestowed receives colored eggs. In Italy after the eggs have been colored, they are taken to the church to be blessed. A custom so time-honored and popular cannot fail of recognition even in these busy 20th century times by those who have a proper regard for tradition. Even at the White House, the home of the president of our nation, Easter day is remembered and celebrated where some of the more favored children play at the ancient game of egg rolling. So it comes about that, altho there is no longer any religious significance attached to it, in nine-tenths of the homes of today on Easter Sunday the egg is given due prominence, especially at the family table.

The Easter time typifies new life and renewed activity. We need no longer shut the freshness from our hearts or our homes for "The winter of our discontent will soon pass away," and the budding springtime will be ushered in by the notes of Easter carols as they peal forth their welcome to the bright Easter morning.

It is Easter, it is April,
And the earth is all astir
With the thrill of life arising
From a sealed sepulcher.
It is Easter—it is April;
March, the warrior, hies away,
His tyrannic reign is ended,
April is the queen today.

THOMAS BAILEY ALDRICH.

BY BESSIE L. PUTNAM.

The Story of a Bad Boy owes its chief charm to its reality. The reader feels intuitively from first to last that the pranks and pastimes of the lusty, open-hearted Tom Bailey are but the reflections of the author's own inner life. Nor is it difficult to reconcile them with a declaration of later years: "No man has ever yet succeeded in painting an honest portrait of himself in an autobiography, however sedulously he may have set to work about it. In spite of his candid purpose, he omits necessary touches and adds superfluous ones. At times he cannot help draping his thot, and the least shred of drapery is a disguise. It is only the diarist who accomplishes the feat of self-portraiture, and he, without any such end in view, does it unconsciously. A man cannot keep a daily record of his comings and goings and the little items that make up the sum of his life, and not inadvertently betray himself at every turn. He lays bare his heart with a candor not possible to the self-consciousness that inevitably colors premeditated revelation."

His own book but emphasizes the truth of the paragraph; it is a narration of facts rather than an attempt to write biography; the in the case of this bright, energetic, observing lad, with a mind large and noble enough to grasp both the humorous and the philosophical at once, the result is wholly unlike the day-to-day

reminiscences afforded by the regulation diary. The book owes much of its fascination to its truthfulness. The feeling that it is a careful and systematic analysis of his own childhood, yet told with the most unassuming grace, magnetizes the reader, old or young. His own rhetorical rule, "Simplicity is art's last word," was never more applicable.

He was born in Portsmouth, N. H., but business relations of his father being much of the time in New Orleans, his early years were marked, like those of the birds, by semi-annual migrations between the two cities. At thirteen the southern trips were discontinued, and the next three years were spent with his grandfather in the "City by the Sea." At sixteen, the death of his father, followed by financial disaster, placed him in a New York counting-room, where the struggle between fate and genius finally ended in a casting out from commercial into purely literary lines.

Like Bryant, he gained world-wide renown thru a single poem while still in his teens. But while Baby Bell, unlike Thannatopsis, lacked the perfection in artistic finish shown in some of his mature poems, none of them, unless it be his Identity, has so completely enshrined itself in the hearts of his readers.

He was versatile, with ideals which never allowed his products to fall below the high water mark of excellence early drawn. Purity in form, delicacy in color, and tenderness in feeling, characteristic of his first great poem, abound likewise in his prose. "A man is known," he says, "by the company he keeps. To live continually with noble books, with 'high-erected thots seated in the heart of courtesy', teaches the soul good manners."

As a study of life and death, Baby Bell, viewed from the standpoint of the youth, gives a most beautiful and enduring picture. It is fitting that in his last contribution to literature should come the sequel of matured life: "I regard death as nothing but the passing of the shadow over the flower."

What more impressive benediction could he have given us! What more magnificent Easter poem, crystallized in a single sentence!

THE LAST FURROW.

(In memory of a departed Farmer reader.)

BY DORA H. STOCKMAN.

The last, long furrow is ended
And all the grain has been sown;
The golden harvests are gathered
The grasses have all been mown.
He sleeps. His labors are ended
With never a sigh or moan,
Never to take up his tasks again
Never to claim his own.

The horses whinny a greeting in vain
And watch for their owner's face;
Cows and sheep, and even the fowls—
All the living things on the place
Miss the hand that has fed them
And given them daily care,
While Rover whines for his master
And looks for him everywhere.

A stranger hand will hold the plow
In the old familiar fields;
Another will soon be reaping
The harvest his labor yields.
There's a vacant chair at the table,
And when the day is done
A woman is waiting, with tear-dimmed eyes,
For him who will never come.

Sleep on! Your work was finished.
A-down the glimmering West
The sun sank low, you heard the call
And came back home to rest.
Silent and still we laid him down.
In a bed where the grass had grown,
To wake in Another Country
When the Master shall call His own.

THE SECRET OF THE STREAM.

BY EUGENE C. DOLSON.

Now, for the first, its beginning I see,
Find what for years was a puzzle to me,
Find out at last where its headwaters be.

Often and often in summertimes gone,
Eager, unresting, I followed it on,
Followed its wanderways hither and yon.

Rounding a bend, in the tamarack wood,
Near to the water a leaning tree stood
Casting its shadow down over the flood.

There in my boyhood it pleased me to stray;
There I would loiter till late in the day,
Trolling a line where the pickerel lay.

Further below were a sawmill and dam;
Sawdust fell thru from the log on the tram,
Minnows unwittingly after it swam.

Winters have passed since I skated by night
Many a time on the surface of white
Near to its mouth, where the current is slight.

Yet what a secret was kept from me still:
Here is its source, in the tiniest rill
Fed by a spring on the slope of a hill!

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Prominent Business Man's Opinion
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Write or call at our Chicago office for particulars of our personal home test offer and list of prominent endorsers who will answer inquiries. Physicians cordially invited to investigate. Address or call (call if you can).

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Wafers.

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These red corpuscles number 5,000,000 to the cubic centimeter; but it often happens that they become very much diminished in number, a condition known as anaemia or leukoemia. There are also other circular bodies in the blood known as white corpuscles, but which are much less numerous than the red.

The red corpuscles are the stimulating and animating elements of the blood. They absorb oxygen in their passage thru the lungs, and convey it to the tissues of the body, where combining with food elements absorbed from the stomach, it evolves animal heat.

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SYMBOLISM—CIVILIZED AND OTHERWISE.

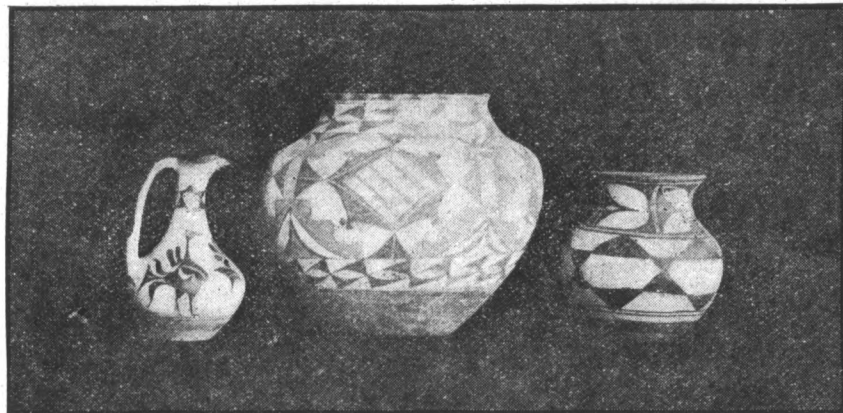
BY E. H. M'DONAGH.

The custom of celebrating Easter by the sending of eggs and flowers is a very beautiful one. What more fitting representation of the bursting of the tomb and the ascension of our Savior could be devised than the egg and the lily? From the egg, lying passive, inert, apparently dead, comes a new life, real and visible. Bursting the shell and leaving its discarded fragments of wrappings, the new creature, winged, full of life, springs into the air. From the bulb, cold, dead and uninteresting, rises a new life—the lily—so pure, so lovely, that its birth, too, seems miraculous.

Easter, coming as it does just at the opening of spring, seems to have a double significance. We are reminded of some of the religious symbolism of so-called heathen peoples whom, in our superiority, we are so ready to despise. Rather should they be regarded as "the little children" who, while lacking our religious opportunities, are still led to see many great and wonderful truths. Instead of pitying their ignorance, it may be well for us to take a little time, occasionally, to learn from their wisdom.

In the spring the old Indian of the great southwest became a poet. He was filled with wonder at the miracles enacted around him, and he wove them into his religion. A great number of natural objects became sacred to him. The idea of new life, which to us is most perfectly typified by the egg, is represented to him by the butterfly. As from the grave clothes of the apparently dead cocoon there bursts a new and wonderful living creature, the butterfly, so from the apparently dead seed he sees the wonderful plant come forth.

I have before me a beautiful tenajon, or corn jar. It is a very old and choice example of the wonderful pottery work of certain descendants of the cliff dwellers. This jar is very large, holding probably a bushel. From its decoration, (a picture writing as easy for the initiated to read as the printed page before you), it was not only made as a receptacle for



Types of the Rude Pottery Produced by the Indians of the Southwest.

corn, as was the ordinary large tenajon, but this jar was meant for the precious seed corn, doubly sacred to the tribe.

The jar itself is made from the common pottery clay that abounds in that region and is most beautiful in form. Many generations have no doubt stored their treasure in its capacious depths, and an accident of long ago has removed a section near the base. This hole has been patched with a native cement, crudely but so solidly that a thousand mile railroad journey to its Michigan home has failed to loosen the patch. To further insure its safety, a network of buffalo thongs has been woven around it, much resembling that made of rushes by Italian and other foreign artisans to protect bottles of olive oil and liquors exported to America.

But the wonderful thing about the jar is its decoration, which is lavish, full of beauty, and in its own way, truly artistic. Many religious symbols are woven into the conventional design which encircles the jar, but chief among them, if we except the corn symbol, is the sign of the butterfly. It occurs again and again, conveying plainly the thought of the patient worker—that that which became a painted prayer—that as the living butterfly springs from the apparently dead cocoon, so might the Great Spirit cause the living corn to grow from the apparently lifeless seed which the tenajon should contain.

How many generations of simple workers kept their treasure here none may know. But we, far away in a less sunny America, guard our seed corn as jealously and plant it, perhaps, with less simple

faith and piety. Yet, as Easter approaches with its recurring lesson of hope and faith, and its beautiful symbolism, may we not think of our red brothers' symbolism? And, as often as we think of the new life as represented to us by the egg and the lily, may we not find it profitable to add to our thought that other symbol of the new life typified by the Red Man?

THE KITCHEN FLOOR.

BY E. E. R.

No floor in the whole house receives such hard wear as that in the kitchen, consequently it should be of some durable material. Nothing quite equals in this respect good, hard wood in narrow widths, preferably maple because of its fine, close grain.

Time was when a bare floor was toilsomely scoured by hand with soap and sand. Our foremothers prided themselves on floors that were "clean enough to eat on," as they expressed it. Nowadays we have come to realize that time and strength may be spent to better purpose, so we protect the floor with oil or varnish which renders the cleansing more easy of accomplishment. Of the two, varnish is preferable because it preserves the natural color of the wood, while repeated applications of oil make it dark.

Good floor varnish dries rapidly and is not difficult to spread. Many excellent articles are on the market prepared especially for this purpose and it is particularly unwise to permit the wood to suffer for want of it since re-laying such a floor is very expensive at present prices of lumber. There can be no actual wear upon the foundation material so long as it is protected from direct contact by the varnish and for this reason it is practically indestructible if properly cared for.

In the case of a soft pine floor it is best preserved by painting. Like the varnish, paint covers and protects the wood from wear.

In selecting a color it will be found that the lighter shades are more satisfactory since they do not show foot prints as do the dark ones. In this day

of adulterated paints the tendency is to peel or flake off and it is better to select some reliable make and use that in the same shade for each successive coat. Then if it should flake off a little the spots do not show.

For some reasons I like linoleum as a floor covering in the kitchen. The first cost is considerable it is true, yet not nearly so great as for hard wood. It can be put down over partly worn boards but in that case all nails liable to work up and any that are already exposed must be firmly pounded down, else a puncture will be made. Rough and uneven places should be well padded with paper.

In buying linoleum it is true economy to select a heavy piece. The common oil cloth possesses not much wearing quality. But a thick, firm piece of linoleum is an altogether different thing from oil cloth with which many of us are familiar principally as a protection to a carpet around a stove.

Like the hardwood floor, linoleum requires a coat of varnish once or twice a year. If this is regularly attended to it will wear indefinitely. Of course, it is not proof against hot water, and soap if freely applied would speedily destroy the glossy finish.

A floor covered with linoleum is very easily kept clean. A mop and some tepid water will keep it bright. If soap must be used to start obstinate spots it should be put in the water and not applied directly to the floor. As with any varnished surfaces little friction is required in cleansing. Above all things it must not be flooded with water. A half-

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clothes the nerves and muscles with warm fat, fills the veins with rich blood.

It makes children rugged and hardy and fearless of the cold. It fills the whole body with warmth and life and energy.

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wrung mop or one that has been allowed to drip is the limit in this direction, and unless badly soiled one merely damp will be sufficient.

In selecting linoleum it is well to avoid either too light or too dark a color. As with the paint, a medium tint is more desirable. Geometric or inlaid patterns are, as a rule, more satisfying than profusely flowered surfaces because one tires of them less quickly. The tile patterns are particularly pleasing but in white are not so readily kept clean. These are very nice for bath rooms.

Linoleum is best laid in warm weather, otherwise there is danger of the varnish cracking as it is unrolled and moved about. Few tacks should be inserted at first, only sufficient to keep it in place. It settles to the floor after awhile and then it may be more firmly secured. If at any point it crowds the base board it will surely push itself up in some other place and an unevenness of this kind is the first to wear out. The remedy is to search out where it binds and trim the edge so it does not touch. If this is done the hump will flatten itself out in a short time. A puncture of any kind which allows the water to enter will in time mean a bad spot. Such a place, if accidentally made, should at once be covered with varnish.

The outer edges of the room may have a small moulding placed along the base and tacked over the linoleum. This makes a neat finish and prevents water from gaining entrance, but the nails must not be put in until the material has been laid some time and given an opportunity to stretch all it is going to, else it will crowd against the wall and push itself up into a wrinkle somewhere as above mentioned. Linoleum that does not bind at any place will lie perfectly smooth.

Given a coat of varnish twice a year a good quality of linoleum ought to last for years in excellent condition.

THE BLESSEDNESS OF GIVING.

BY GEORGE BANCROFT GRIFFITH.

Some little incidents have recently come under our notice which will make clear to the young people the pleasure and profit of consecrated liberality. In Connecticut I became acquainted with a lady who had a beautiful flower garden, in which she took pride. I learned that the whole country was proud of it, too, and people drove miles to see it.

She fastened two large baskets on the outside of her fence next the road, and every morning they were filled with cut flowers—the large showy kinds in one basket and the delicate, fragile ones in the other. All the school children going by helped themselves, and studied the better for it, and the business men took a breath of fragrance into their dusty offices that helped the day along. Even the tramps were welcome to all the beauty they could get into their forlorn lives.

"You cut such quantities," said one of her neighbors to her, aren't you afraid you will rob yourself?" The more I cut the more I have," she answered. "Don't you know that if plants are allowed to go to seed they stop blooming? I love to give pleasure, and it is profit as well for my liberal cutting is the secret of my beautiful garden. I'm like the man in Pilgrim's Progress:

"A man there was (tho some did count him mad),
The more he gave away the more he had."

One poor woman to whom a rose-bush was given, planted it over her husband's grave, watched it whenever she could steal time to make her pilgrimage to the spot, and tenderly took it up before frosts came, to nurse it thru the winter, that it might blossom again for him in the pleasant summer-time. A little boy, apparently dying with fever, and too dull to notice even his mother, seemed to be called back to life by the love he conceived for a bunch of humble yellow cowslips laid upon his pillow. A tiny vagrant so fond of flowers that he used to follow the venders on the chance of a stray leaf dropping, was given an object in life as well as happiness, in the gift of a few pots of violets and a fuchsia.

The pale tallness in a certain treeless street could hardly believe that the sweet blossoms from the hand of a thoughtful benefactor were a free gift, and at first declined them as a luxury they could not afford. But when they understood, one asked for a violet, and another for a lily, and a delicate woman said, "Might I have a rose? I am so fond of them, and I have not had one for two or three years."

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The soles of Steel Shoes and an inch above the soles are stamped out of a special light, thin, rust-resisting steel. One piece of seamless steel from toe to heel. As a further protection from wear, and a means of giving a firm foothold, the bottoms are studded with adjustable steel rivets.

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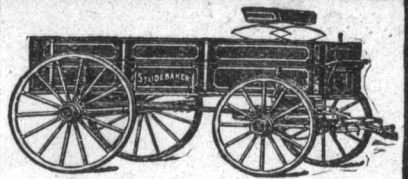
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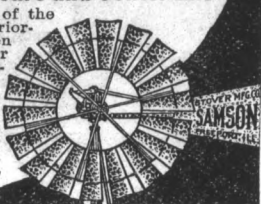
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