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NOT every farm is suited to the production of cash crops, and not every farm is ideal for stock, but the farms that are suitable to some branch of stock farming greatly outnumber those that are suited to the production of cash crops. Years ago good farming was considered synonymous with stock farming, it being generally conceded that growing cash crops necessarily meant the reduction of fertility and ruin of the land, just as it was also assumed that feeding stock made the soil rich and removed the problem of fertility from further consideration. Every thinking man who is concerned with soil improvement knows that there are several systems of profitable crop growing that help to build up the soil.

The interest in any type of agriculture depends upon its proved ability to pay a profit. The question is, will it pay a profit? We are not so philanthropic as to seek fame through the medium of an unprofitable farm. While most of us understand that we make the most success growing the crops and raising the stock we like best, yet the conservative plan is not to specialize in either crops or stock until we have gained the necessary experience to make it a success. The man who makes a specialty of one kind of live stock or one cash crop is always on the anxious seat. The success of his specialty means his success; its failure means his ruin. He has assumed the business of speculator and requires a reserve fund of dollars to back up his business during unfavorable years. No man can learn how to conduct a specialized agriculture except by years of experience. There is such a degree of science growing up around the development of every branch of specialized farming that only continued study and effort will bring success.

General farming, planting a variety of crops and keeping a variety of animals, is the safe way and withal the most successful for insuring a steady income. There is no great fortune to be made from diversified farming. It is a slow and steady growth. Its valuable feature is its security, safety and sureness. In diversified farming it is essential that we give due attention to each branch of farming that is being followed and seek to harmonize them all. We must select only those branches which we find suited to our farms and which will fit nicely into our general scheme of farm management and eliminate every waste.

Ordinarily, I do not believe we should do too many things. Any system of management which causes neglect by the individual is wrong, no matter how correct it is in principle. I know, because I have tried both diversified and specialized farming and gained my knowledge at first hand in the costly school of experience. We can see farmers on all sides of us who are doing too many things. It is a very energetic and ambitious man who can, with a limited amount of capital make a success of more than one or two branches of farming to which he gives his study and best services. Of course, he must follow other lines of work, but the other lines should be to a certain extent, sub-

Diversified vs. Specialized Farming.

servient to his one or two chosen specialties.

In my work about the country I have found very few farmers who have succeeded with any one specialty, and more than nine-tenths of the ones who have succeeded have advanced to this specialty from the level of the general farmer. It is easier to keep up the fertility of a farm where the crops are diversified and considerable grass and clover grown in the rotation and fed to stock on the farm. Too many farmers attempt to farm

both a specialized and a diversified agriculture, yet combine none of the weak points of either. Potatoes are the specialty, but market milk is made so that the manure crop may be had to help maintain the soil in good condition for the potato crop. I believe that this system of farming puts a point to some rather noteworthy agricultural principles.

Clover, corn, potatoes and wheat are our main crops. As a source of feed and fertility, the hay crop is of most import-

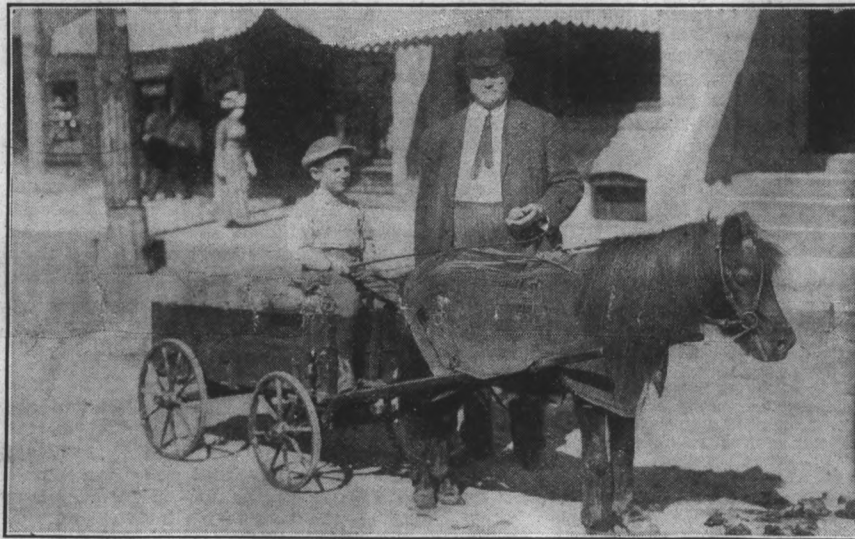
farm. Both because it is the best crop to plant on the manured sod and because it leaves the ground in such fine condition for potatoes, corn is a most valuable rotation crop.

Potatoes bring in the money. The profits from our milk business were very small when we depended upon buying all of our grain foods and had no money outside of the milk funds to meet the feed-bills. Obviously, when we depend upon purchased grains as a source of feed and fertility we must plan to take care of this fertility by growing a money crop that will be stimulated by the increased soil richness, even if it does not use this richness up. We chose potatoes because they fit nicely into our crop rotation and enable us to develop more plant food by tillage. No man who has handled a crop of potatoes and given them clean cultivation has failed to note the benefit accruing to subsequent small-grain crops that follow in the rotation. The soil that is given intense tillage is teeming with bacterial life, a condition brought about by opening up the pores and letting in the air which the soil bacteria need in the business of making the plant food available for the growing crops.

By applying liberal amounts of commercial fertilizer to the land on which we raise potatoes we raise a maximum crop and have the field in ideal condition for winter wheat, with which we seed our clover or mixed hay. Many men will object to applying the bulk of the fertilizer used in the crop rotation to the potato crop, but when we figure the cost of growing this crop and the resulting profits, it is easy to see that it pays to keep the crop well supplied with an abundance of plant food from start to finish. There is practically no waste in applying large amounts of fertilizer to potato ground, for what is not utilized by that crop is taken by the succeeding crops of wheat and grass.

We raise wheat in place of other crops because it is a conservator of fertility and serves the purpose of a winter cover crop. It is a safe crop to seed clover with and makes a good yield when sown on the potato ground as soon as the potatoes are harvested in the fall. This is not because the potato crop adds any fertility to the land. On the other hand, it takes fertility from it. But potatoes demand intense tillage, and tillage permits the soil bacteria to make available much insoluble plant food to the advantage of the wheat crop. Furthermore, the cultivation of the potato field conserves a large amount of soil moisture which is so essential in securing an even stand of wheat and a catch of clover and grass seed. Using the potato digger is equal to plowing the field and after harrowing as soon as the crop is harvested an ideal seed bed awaits the wheat crop.

This rotation of crops in connection with milk production and a small flock of mutton sheep distributes the labor of the men and the teams regularly over the year, reducing the acreage cost of tillage and simplifying the question of hired labor. In this way the hired help is regular and contented. It is a fundamental principle of all industries that the equipment must be kept in



Master Roy Neusbaum with the Smallest Load of Potatoes Delivered in St. Joe Co

without grass and have the idea that the only profit must come from continual cropping, when, if they used their pastures and meadows as a basis, they could grow better vegetables, fruits and grain and produce animal products, and in fact, everything connected with a profitable agriculture.

In evolving a profitable system of crop growing in connection with the production of market milk I have tried to work out a system of farming that possesses as many of the strong points as possible of

ance. We raise a number of acres of mixed hay to sell and to feed in case we fail to get a good stand of clover, but clover is our main reliance in making up rations for our stock. Corn is the scavenger crop, capable of making the best use of coarse manure and wastes from stock feeding. It can be grown and harvested for less money than any other crop that will supply an equal amount of palatable grain and roughage. Since the silo came into general use the corn crop has become very popular on the dairy



The Largest Load of Potatoes Known to have been Delivered in St. Joseph Co. (See Data on Page 502).

constant use. Idle equipment and buildings bring in no income and are a constant expense. On the farm where good dairy cows, farm teams and trained men are kept this rule operates with special force. The farm that is producing something every month in the year is operated on a safer basis than one that depends upon the sale of one crop or one kind of stock at any one time of the year.

The even distribution of fertility and labor is an economic aid in reducing the cost of producing crops and caring for the dairy herd. Where there is an equal distribution of fertility and labor there is less capital required to conduct the farm, and less horsepower, farm machinery and equipment are needed. Not only daily experience, but the whole history of farming proves that crop growing is on a safer basis when the bulk of the field crops are fed to stock on the farm and the resulting manure applied to the fields with as little loss as possible. Pursuing this course and buying fertilizers to encourage the growth of highly organized crops enables us to expand our farming and increase our incomes. It is my ideal of a specialized agriculture and has nearly all of the advantages of a diversified agriculture.

New York.

W. MILTON KELLY.

FARM NOTES.

Power vs. Hand Husking.

The discussions on this phase of farm work appearing in this and the previous issues of the Michigan Farmer are of considerable interest, expressing as they do, extremes of opinion upon this very practical subject. Unquestionably these opinions are the result of the different points of view taken by the writers, quite as much as of their actual experience. However, it will be noted, in reading these different opinions, that where the power husker has been used with success and satisfaction, its advocates are quite as enthusiastic in its praise as are the advocates of hand husking in claiming the superiority of the method which they follow in practice.

And right here appears to lie the "cue" of the average reader in arriving at a correct conclusion as to the relative merits of the two methods of husking the corn crop. The brief testimonial published last week referring to the satisfactory operation of the outfit illustrated on the first page, shows how one farmer has solved this question satisfactorily, by owning a small outfit, which he operates whenever conditions are right, with a small crew of men. The farmer who has considerable corn to husk, or a number of smaller farmers in any neighborhood, can often solve this problem satisfactorily by owning, singly or jointly, such an outfit as was illustrated and described. In other cases the big outfit operated by the professional thrasher may be employed to advantage, but here there is the disadvantage of unfavorable weather conditions to be risked, as mentioned by two of the writers on this subject. This disadvantage, however, appears at its worst this season, and is not so serious in a normal year.

So far as the superior value of the sareded fodder is concerned, there is an honest difference of opinion, well brought out in this discussion. When conditions are favorable, however, the consensus of opinion favors the shredded fodder, and, so far as the increased value of the residue from feeding the stalks is concerned, there can be no question. There is no better stable absorbent than this residue of shredded cornstalks which the stock does not consume, and any farmer who burns such valuable vegetable matter, as one of the contributors to this discussion declares is done, is almost criminally wasteful of a valuable means of maintaining soil fertility. As to the need of additional material for bedding or absorbent material, we believe that the farmer who could not use more such material to advantage than is produced on the farm is not making live stock as large a factor in his operations as he should to insure the maintenance of soil fertility, to say nothing of its increase.

Undoubtedly there are conditions under which the use of the power husker is not practical, unless it is available at any time as is the case with the small, individually owned outfit. There are also conditions under which hand husking is difficult and wasteful during weeks of extremely dry weather when the fodder breaks up and many of the valuable leaves are lost in the field.

But there is undoubtedly a place for the use of both methods on the farms of

Michigan, and both may be profitably employed by the average farmer under the varying conditions with which he is confronted. That this is true of the power husker is proven by the fact that it is still in use, after many years of trial, upon many of our best managed farms. On the other hand, it has its limitations, which have prevented its use from becoming as general as the grain thrasher, for instance. Really, the best solution of the problem of harvesting and storing the bulk of the corn crop is the silo. But some corn should be grown for husking on every farm, and the most satisfactory and economical method of doing this work is an individual problem for each farmer, and can be solved to the best advantage only after a full consideration of the conditions with which the grower is confronted. It is but natural, under these conditions that both the old and new methods should have their advocates, whose arguments may or may not have a proper bearing on the individual problem.

A Substitute for Clover.

As my clover seeding failed me last summer I would like to have you advise me through your paper what would be the best thing to sow for hay next year. I have a good piece of ground that had oats on this year. The land is sand loam with clay sub-soil. Would millet be all right, and if so what kind would be best and what time had it ought to be sown? Montcalm Co. SUBSCRIBER.

On an ordinarily fertile soil that is adapted to the crop, there is probably no better substitute for clover hay than oats and peas sown as early in the spring as the ground can be prepared and cut for hay at just the proper stage of development. This is a much better substitute for clover hay than millet for the reason that peas being a leguminous crop furnish a feed richer in protein than millet. There is another advantage in that the crop can be gotten off in time for the sowing of fall grains if desired. Other substitutes can, of course, be used, such as soy beans, or cowpeas, but these are not nearly so certain and should not be grown upon a large scale until they have been previously experimented with.

MAKING A SILO OUT OF A CELLAR.

I notice in the Michigan Farmer Mr. Lillie's statement that he would put some of his cornstalks in silo. The idea struck me very forcibly. I have no silo, but have a cellar built up of concrete. What cornstalks we have out yet are so soaked on outside of shock that I question if they will get sufficiently dry to put in the mow. What I want to know is, how much water to put on when cutting. I can have hose running continuously any desired stream.

S. E. M.

I can see no objection to cutting the cornstalks and putting them in this cellar, provided proper precautions are taken. As a matter of fact, the earliest silos that were constructed were cellars, simply a pit was made in the ground with a stone wall around the outside and this was filled with green corn. The modern way of building a silo is a great improvement over this because we can have greater capacity in the right direction. That is, we can have our silos smaller in diameter and deeper and have less surface exposure than the original idea. The original idea of a silo, of course, came from France, where they pitted the stuff in the ground. It would seem to me that it would pay to put some sort of weight upon the top of it to press it down as there would not be depth enough of the cut cornstalks to make them settle properly. Perhaps, however, if great pains are taken in tramping it in in the first place and then, after the stalks are all in thoroughly tramp the surface of it every day for three or four days and wet it down thoroughly there would be very little spoiled ensilage. Care must also be taken in tramping the corners, or there will be some spoiled cornstalks there.

Now, with regard to the water. I don't think anyone can tell just how much water ought to be run in with these cornstalks. You have got to make a guess at it. You have got to use judgment. What you want is to get as much moisture as the corn originally contained when it stood in the field ready to be cut to put into the silo, containing all of the natural juice of the plant. That is sufficient, less than that is not sufficient, more than that will tend to prevent the mass from making good silage. If the cornstalks are covered with snow or ice because of their freezing or from so much rain then it will take less moisture but the probability is that you will not get any too much moisture. If there was no external moisture upon the cornstalks caused from snow or ice it would take

a stream of water as large as would run through a one-half inch gas pipe with as much as two or three feet pressure of water. I am confident that it will take this much and perhaps more. The water should run into the blower part of the ensilage cutter so it will be evenly distributed through the cornstalks and then they want to be well tramped in, and, as I say, after you are all done, after the cellar is full, tramp it down thoroughly and put on more water. There won't be so very much of this water penetrate into the cornstalks because the heat will cause it to evaporate but this heft of water on top will cause the cornstalks to settle and make good ensilage.

COLON C. LILLIE.

AGRICULTURAL OPPORTUNITIES IN MICHIGAN.

As I have just been reading the good letter written by Colon C. Lillie in a recent issue regarding the agricultural opportunities in Michigan, I am going to take the liberty of writing a few lines on the same subject. I moved from north-western Illinois to Michigan nine years ago and can say that I have been perfectly satisfied with Michigan and the many advantages it has over Illinois or any of the western states. I first located in Kent county, where I bought 200 acres. After living there for seven years, I had an opportunity to dispose of my land at a profit, so sold out and came down here, 125 miles southeast. I now have a 500-acre farm, all in one body, and a very desirable place.

When I went to Chicago this fall after my feeding cattle I made a trip down to Milford, Ill., 90 miles south of Chicago. This is called "grand prairie" and is one of the very best farming sections in the state. I have an uncle located there, who has a 320-acre farm worth \$250 per acre. I asked him why he did not sell and he said he did not know what to do with so much money. Of course, the farmers that came there in an early day are mostly all wealthy and have all the cash they want outside of their farms, for which reason they don't care to sell them even though they are not realizing three per cent on their investment. Land is steadily advancing there and whether it will ever reach its maximum no one seems to know.

But what is puzzling me is to know why the choice farms in Michigan are not selling for more money. As for the wonderful crops they raise in Illinois I can honestly say that they don't yield any greater profits to the farmer there than on the best farms in Michigan. Of course, I am not making this comparison on the pine stump land that is only suitable for fruit or some light crops, but I mean the best soil we have here.

Of course, everyone knows that Michigan is head and shoulders above any western state for "quality" in fruit and potatoes, which are two of the most important factors in our living, and I am sure that we can raise clover and alfalfa to much better advantage. The main crops in Illinois and Iowa are corn and oats. But they have cropped the land continuously so long that it is not producing what it used to, and just why much of that "worn out" soil commands such a figure I don't know.

But one thing I do know. If I owned a farm there I would sell out at once and move to Michigan, where the people live for the sake of living and have the advantages and luxuries of life which pertain to fine, happy homes.

Jackson Co.

B. F. WASHBURN.

CORN HUSKING BY HAND.

In regard to the item on "Corn Husking By Power," in the November 18 issue of the Michigan Farmer, written by an Oakland county farmer, I desire to state that I do not agree with him. First of all, I hope he does not disgrace our state enough to call it hilly and rough, when he speaks of the wind sweeping over the hills and through the vales. We have a comparatively level state compared with some farming country. As to the help question, it may be hard to solve but on account of the high prices of living it may take a change in the near future. The best way to get your work done, and done right, is to "do it yourself and not leave it to others."

I hope that the Oakland county writer did not succeed in impressing it upon the minds of the readers that they who husk their corn by hand are not good farmers. He said that "when husking corn by hand, there is always corn left out for Jack Frost." I would like to have him

tell me if there is any more left in the field when husking by hand than when waiting for a machine. The farmer engages the shredder for a certain time and, if it storms when the shredder gets there, he is obliged to husk just the same with a chance of all the more mouldy stover. There is, I believe, not a man who uses the shredder who will not admit that, if he had husked his corn by hand, both stover and corn would have been in much better condition.

What does the Oakland county writer do with his shelled corn? I know of one machine this fall that husked 200 baskets of corn and 100 bushels of shelled corn. Now we all know that the shelled corn is damp and will mould at once if not spread out in a very thin layer, or mixed with oats, which will help to absorb the moisture. He speaks of the "cracking fingers, aching legs, and the ever increasing possibility of a disagreeable doctor's bill." Corn husking is the easiest work the farmer has to do. There is no straining nor lifting but a pleasant, agreeable work. As for the doctor's bills, it would do more than drugs for most people to get out in the early morning and breathe the pure, fresh air all day.

The autumn is the nicest time of year, this year being an exception on account of the heavy rainfall, which is the better reason for the farmer not using the shredder.

He states that the corn stover gets double exposure to the weather when husked by hand. The corn should be husked out and the stalks set up in as large shocks as possible, bound up, and left until thoroughly dry. I would like to see some of his sweet smelling stover, about mid-winter, that was taken from the shock the first of November, and stored in a large mow.

From all figures, there is very little feeding value in the large coarse stalk; the cattle will eat no more of it where shredded than when whole. I find that the whole stover is of more value for the indoor feeding than the shredded. You can feed more stock and easier where it is in a bundle and I would like to see the man who can bed his cattle with the waste he takes from the manger. We do not have to shred our corn crop to get bedding for our cattle. The straw we have should be used for that purpose. We have a neighbor who shreds his fodder and what he can't use for bedding, he draws out in the spring and burns.

The expense of husking by machine is much greater than by hand. For a machine that husks 1,000 baskets of corn it takes 15 men to get the corn to the machine, besides the engineer and two feeders. You pay the machine man three cents per basket, just what you would pay to get your corn husked by hand. Then 15 men at \$2.00 per day would be \$30, or three cents more, or a total of six cents per basket, not counting the mouldy stover, wet shelled corn and the corn in the crib which is all shelled and broken up. Did you ever see seed corn for sale that has been husked with a machine? As for one man tending the blower and keeping the husks picked off the corn so that it is right to put into the crib. I would like to see him do it.

We are husking corn by hand yet and will for a time to come. Two years ago three of us husked 3,400 baskets and drew the stalks in four weeks. Last year we were all through husking by the middle of November while a great many of the farmers near us were still waiting for the machine.

Calhoun Co.

A. G. C.

THAT LARGE LOAD OF POTATOES.

I send you a photograph (see first page cut) of a 122 bu. 50-lb. load of potatoes, delivered August 26, 1911, at \$1.00 per bushel. The potatoes were of the Green Mountain variety, cut one to three eyes to the piece, and were planted April 12 on a field of heavy June grass sod that had been plowed in March. The potatoes yielded 80 bushels per acre, which, considering the severe drouth, was considered a good yield. This was the largest load of potatoes and brought the greatest amount of money of any load that ever crossed the scales in this vicinity.

St. Joseph Co.

J. D. STURGIS.

A table has been issued by the geological survey, showing the production of coal in the United States since 1814 to be 8,243,351,259 tons. Of this amount, Michigan has produced a total of 13,997,621 tons, the first coal being mined in this state in 1860, when 2,320 tons were dug. During 1910 over one and one-half million tons were mined.

FALL WORK ON THE FARM.

There is always plenty of work to do on the farm at any season, making repairs or improvements, for the farmer who is interested in his occupation is always planning to have things more convenient for his work, or better to look at, for the true farmer wants his place to look as well, or better than that of his neighbor. At most seasons, when repairs can be made, he is too busy at other things which have to be attended to on time, but in the fall there are often many days when the regular farm work is not pressing, and then he has his chance to make things look better, or make some improvement which will enable him to do his work easier or quicker. This fall has been an unusual one in weather conditions, and has delayed the regular farm work in many ways. The excessive rains have hindered the gathering of crops, so that at this writing, the last week in November, there are still potatoes in the ground, as well as sugar beets, and a great deal of the corn crop remains to be husked. The ground is so soft that it is difficult to get around with a team in the fields, and those who wish to shred have been in still worse difficulties, for not only has the ground been too soft to draw the corn but, most of the time since the corn was dry enough to husk, the fodder has been too wet to safely shred and put it in the barn.

But if the regular farm work has been interfered with to a great extent by the rains, there have been many days that could be profitably spent in other ways, getting things in better shape for work another year. On most farms there are fences to build or repair, and at present the ground in most places is in ideal condition for such work, the rains have made it soft and easy to dig, so that post holes can be more easily dug than at any season, except in spring, and then there is usually too much other work that is pressing. With the ground slightly frozen and clear of snow the conditions are ideal for cutting out hedge rows along the fence and thus getting rid of unsightly places. Then there is nearly always work to be done in the orchard, broken down or uprooted trees to remove, and in old orchards, unless the work has been done before, worthless trees to be cut out, and trees to trim. Some may think this not the season to trim trees, but my idea is to trim when you have the time for it, or as a celebrated orchardist put it, "trim when your knife is sharp," without regard to seasons or moons. It is certainly better to trim at this season than to let the trees go without it. After the trimming is done there is the brush to get out and pile for burning. The past summer I saw several orchards where the trees had been severely pruned and all the brush left just where it fell, several years ago, evidently, judging from appearances, for it was rotting. It certainly made an unsightly looking place, and most inconvenient for getting about when picking the fruit. Without regard to appearances, all trimmings from the orchards should be burned as soon as possible to be sure of destroying all insect pests that may be thereon.

If there are rocks in the fields to be removed this is an excellent time to dig them out, so that when the first light fall of snow comes, after the ground freezes, they can be easily drawn on the stoneboat, when, if they are large, it would be difficult for the team to handle them on bare ground. Shade and ornamental trees can be set out at this season too, particularly where they are to be taken up on one part of the farm, or nearby lands, and set out on another part. The farmer is usually too busy in spring for such work, so if it is done at all it must be done when he has the spare time, and that is usually in the fall before the ground freezes, and if the job is well done, and the trees looked after in the spring to see that the winds have not loosened them, they will stand just as good a chance of making a healthy growth as they would if set out in spring when the farmer can ill spare the time to attend to them.

Then there are repairs to be made about the farm buildings, glass to be put in windows where they have been broken, loose boards to nail fast, roofs to be patched, and everything made snug to keep out the wind, snow and rain during the winter; chilly and drafty stables are expensive for stock that is not comfortably warm will consume more feed.

Often the grounds about the house and barns needs grading up so that the rains will be carried off, making the buildings

more sanitary, as well as improving the appearance of the place, and this grading can usually be done at this season to advantage so that the winter and spring rains will settle the soil.

If there is a woodlot there is no better time to select the timber which is to be cut, or to cut it, for it is a whole lot pleasanter to get about on the bed of fallen leaves than to wade through several inches or a foot of snow, and dig out logs that are down, before they can be cut. A man can do a lot more in a day when the ground is bare.

Every farmer has a hundred and one little things that he wants to do, and if he uses a little forethought at this season he can get many of them done to his own advantage and to the appearance of the farm. The man who takes pride in the appearance of his farm and everything about it is the man who will succeed best.

Eaton Co.

APOLLOS LONG.

LOST OPPORTUNITIES.

An analysis of the average farmer's business methods leads on to believe that he loses more opportunities than he takes. It also has appealed to me many times that opportunities to make money come oftener to the farmer than to any other class. A business man, manager of a copper mine, was discussing soil fertility a short time ago. He said he could hardly believe that the fertility of the soil could be preserved by crop rotation, to any extent, if at all; because it seemed probable that if it were possible to do it that all the farmers would have long since practiced it. I called to his mind the condition of the average dairy herd—told him that few farmers gave the actual production of milk and butter-fat a thought, how many even refuse to listen when told how to raise their production per cow by keeping better stock and by feeding better balanced rations. I showed him that they apparently will deliberately keep cull cows when it is possible to keep good ones. I told him of the 25 Illinois cows that were found to yield their owners as much profit as 1,012 other Illinois cows. I asked him why it was that the dairy farmers didn't raise their standard. He admitted it must be for the same reason that crop rotation on the average farm is unknown.

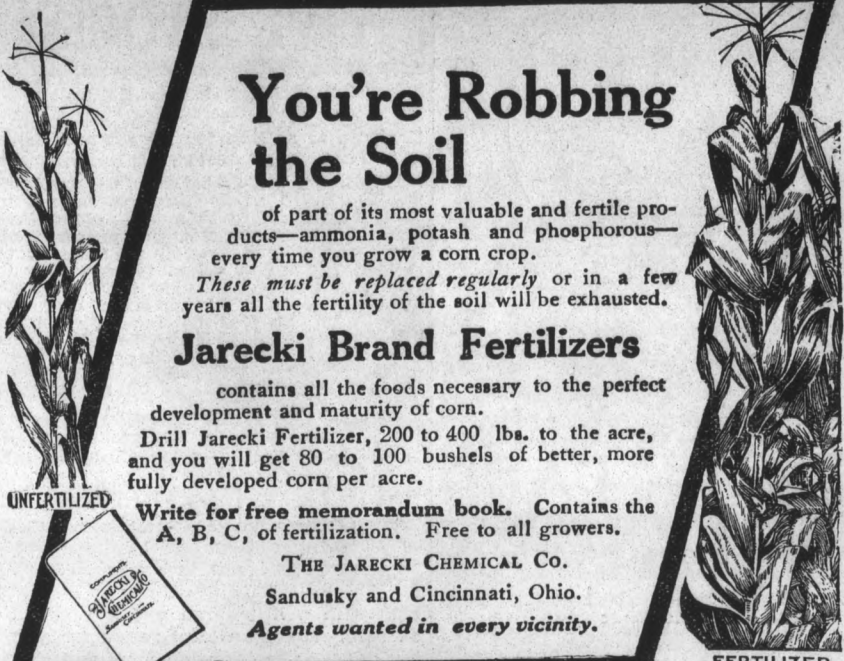
He found it difficult to believe in the farmer's lack of perception in these matters. I find it as difficult to believe that there are farmers' sons and farm renters anywhere, who continue year after year to work for the other fellow when they could just as well work for themselves. There are literally millions of acres in the upper peninsula that are as fine farm land as can be found anywhere. I realize the difficulty of making people believe it. The world is very sceptical when it comes to things just next door and the further away one's mind travels the rosier things look. I confess the printed matter sent out telling the wonderful advantages of certain regions of the far west, especially the booklets telling about apples, make one's mouth fairly water. We are just waking up to the fact that we can grow just as good apples and just as many per acre as can be grown anywhere. In fact, we have half a notion that our upper peninsula apples beat any other apples, for size, color, flavor and aroma. If my readers don't believe it let them go to the Chicago land show in November and December.

To go back to my subject. I can't understand how young men will persist in working out by the month when they can buy farms up here for three months' wages and get a third of a lifetime to pay the rest. As a matter of fact, they can generally obtain work at higher wages than are prevalent elsewhere whenever they want it. Three or four years will suffice to get a farm of forty acres paid for. It will require a little effort, it is true, but so does anything worth having.

Why, then, should the young farmers or the older ones go to the far west or to Canada to start for themselves. Think of the distance from the old home with its tender memories of mother and father, brothers and sisters. Why not go to a country that has all the advantages and none of the disadvantages, where you can live within a day's railroad journey of nearly the entire middle west. Think of the advantages of our exceptional railroad and boat facilities, our markets. Keep near the center of population if possible. Don't overlook your own state for opportunities, both above and below the Straits of Mackinac.

Ontonagon Co.

T. A. GREEN.



You're Robbing the Soil

of part of its most valuable and fertile products—ammonia, potash and phosphorous—every time you grow a corn crop.

These must be replaced regularly or in a few years all the fertility of the soil will be exhausted.

Jarecki Brand Fertilizers

contains all the foods necessary to the perfect development and maturity of corn.

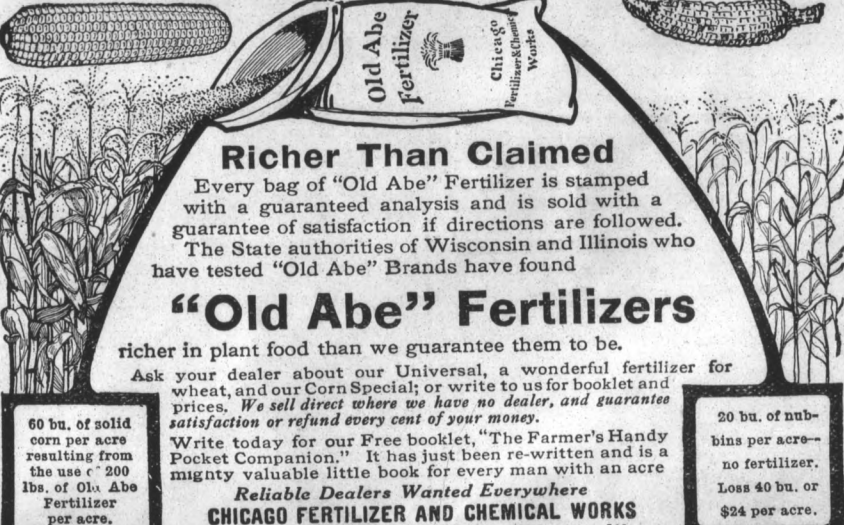
Drill Jarecki Fertilizer, 200 to 400 lbs. to the acre, and you will get 80 to 100 bushels of better, more fully developed corn per acre.

Write for free memorandum book. Contains the A, B, C, of fertilization. Free to all growers.

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THERE are lots of so-called "simple" gasoline engines, that are simple to a mechanical engineer, but not to any one else. When you look 'em over you will find forty-seven parts, most of which require adjustment and attention, and many of which have nothing at all to do with the efficiency of the engine. These useless parts mean that the engine-maker is clinging to ideas of construction that date back to the days when the gas engine was in its infancy, and had about as many parts as a piano. An engine like that is of no real use to you. It's more of an aggravation than anything else, and some do funny or other is always breaking down or getting out of order just when you need the engine most.

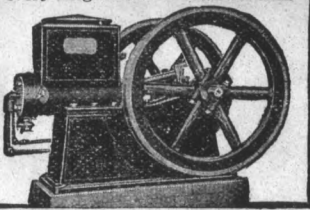
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Just send us a postal, and you'll get it by return mail. You'll find in it a lot of facts about engines that you ought to know. It contains, too, full information regarding a model farm power-house that your boy can make, and that will save you time and money. But don't buy an engine before you've investigated the Marvelous McVicker.

ALMA MANUFACTURING COMPANY
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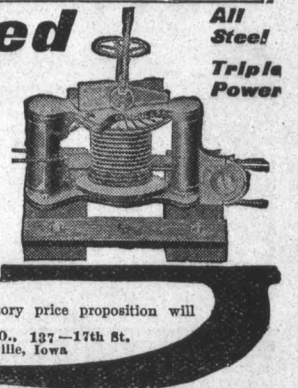
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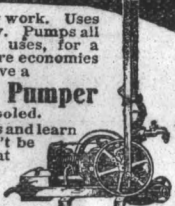
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LIVE STOCK

FEEDERS' PROBLEMS.

Ensilage as a Feed for Horses and Colts.
Cottonseed Meal for Lambs.

This being my first year with ensilage, would like to know if it can be fed to colts from eight to 20 months old. Have heard that it was not the proper feed. Am feeding lambs, weighing from 60 to 75 lbs., but am at a loss to know how to feed and get results. My hay is mixed, of good quality. Being short of corn and oats, want to feed cottonseed meal, so kindly advise me if it can be fed to colts and lambs without ensilage, and how much.

Macomb Co.

C. H. D.

Ensilage is not well adapted as a feed for growing colts for the reason that it is a bulky food and does not contain enough nutriment to give best results. It is also too soft and acid in character. The colt has a small stomach and a rather delicately poised digestion and needs the most wholesome and nourishing food for best results. Good clover hay and oats with a little bran and a very little oil meal makes an ideal ration for growing colts. The bran, oil meal and clover hay will be sufficiently laxative in effect without the use of other succulent feeds and the colts should be given plenty of grain in order that they may make a rapid growth and develop into the most perfect form at maturity. Some very good authorities contend that the best way to feed grain to growing colts is in an automatic feeder. However, this is a matter of opinion and is not essential, nor, in the writer's opinion, desirable, provided they be well fed to keep them in a thrifty, growing condition and gain rapidly from the start.

Ensilage may be used with safety and success for feeding idle horses and brood mares, providing not too heavy a feed is given, although there is considerable difference of opinion as to the advisability of feeding ensilage to brood mares. However, very good results have been secured by such feeding in many instances. It is not suitable feed for work horses, on account of its bulky and soft character, and it is better not to depend on it to any great extent for horse feeding.

Ensilage may be used in moderate quantities with the best results for feeding lambs, particularly during the early part of the feeding period. It cannot with profit, however, be made the sole roughage ration for lambs. The best feeders feed about two pounds of ensilage and half a pound of dry hay per day as roughage for each lamb.

Cottonseed meal may be used in connection with corn for lamb feeding, but it would not be economical nor a safe proposition to feed it as an exclusive grain ration with ensilage. Oil meal, or preferably pea-sized oil cake, is a more palatable feed for the lambs and also a little safer feed. Gluten meal is another concentrate high in protein which may be profitably used with corn for this purpose. In fact, it makes little difference what the source of protein may be, so long as it is fed in the proper combination with corn to give a balanced ration for the fattening lambs. However, the corn is the cheapest base for the ration, even at present prices and cannot be profitably eliminated. Cull beans, where they can be purchased cheaply—and there will be a good many on the market this year—can be used with safety and profit, providing not more than one-quarter pound is allowed per day for each lamb, in connection with corn and other feeds. Thus it will be seen that economy should indicate the source of protein.

A good rule to follow is to vary the amount of protein concentrates used in accordance with the comparative price of corn and protein concentrates. One very good authority lays down the rule that for most profitable feeding, where corn is cheap and these commercial food stuffs are comparatively high in price, is to use about nine pounds of corn to one pound of oil cake or its equivalent in other protein concentrates. On the other hand, where corn is high in price and protein concentrates are comparatively cheap, as much as one part by weight of protein concentrates to four parts by weight of corn can be profitably used. Under the conditions which prevail at present, and particularly if clover hay is not available for the roughage ration, about one part by weight of oil meal, or its equivalent in other protein feed, to six parts by weight of corn, would be a satisfactory and economical combination of grains. If clover hay is not available some bean pods in connection with mix-

ed hay or other roughage, will prove a valuable addition to the roughage ration.

Considerable judgment needs to be exercised in compounding and feeding the ration to fattening lambs for best results. There is no department of feeding which requires the exercise of greater judgment on the part of the feeder. Experience is a valuable factor for success, but an inexperienced man who gives careful thought to the compounding of his ration and personal attention to its feeding should get satisfactory results. The nutritive ratio for fattening sheep should not be far from 1:5, somewhat narrower than that during the early part of the feeding period and somewhat wider towards its close. However, it is not necessary to closely follow the feeding standard indicated above, nor is it always economical, since with the varying prices of feed stuffs economy may be secured by varying the nutritive ratio slightly from the approved standard.

Cull Beans for Fattening Cattle.

Can you tell me whether cull beans make good feed for fattening young cattle or not? If so, how should one feed them?

Sanilac Co.

W. J. L.

Cull beans can be used with profit as a factor in the ration for fattening cattle. When very cheap they have been used with success as the exclusive grain ration. Some years ago cull beans sold as low as 10 to 12 cents per bushel in Michigan, and from that up to 25 cents during this period. The writer saw several large bunches of cattle fattened on cull beans, cooked with steam and fed as the exclusive grain ration in connection with mixed hay. These cattle made good gains and were marketed in good condition at a profit to the feeders, although the quality of the flesh which they carried appeared to be somewhat softer than would be the case with corn-fed cattle.

Beans cannot be fed with profit to cattle without cooking, but where cooked could be made a factor in the grain ration to the extent of perhaps one-half the grain fed in combination with corn and cheapen the ration considerably where the cull beans can be obtained at a low price. However, it is probable that they can be used as hog feed in connection with corn at a greater profit than for cattle feeding.

Cull Beans for Hog Feed.

Can someone tell what stock, aside from sheep, cull beans can be fed to, and of what value are they as feed? Also, how should they be fed?

St. Clair Co.

SUBSCRIBER.

As noted above, cull beans can be used as a limited factor in the grain ration for sheep with good results. They can also be fed to cattle with profit where cooked, provided they can be purchased cheaply enough. But their best use as a stock feed is for hogs for which they should also be cooked and fed in connection with corn or roots. When so fed they make a very acceptable hog feed, the value of which is increased because of the fact that they can be fed warm, which adds to the palatability of the ration during cold winter.

A GOOD PIG RECORD.

On May 17, 1911, I had a litter of seven Poland China pigs farrowed, and May 20, 1911, a litter of eight, a total of 15, of which I lost one early, leaving 14 pigs to mature. After weaning time I sold one to a neighbor, leaving 13 which I kept until October 26. I sold two sows of this bunch at 160 days' old, weighing 225 pounds each, and on November 1 I sold nine more which weighed an aggregate of 1,870 pounds. Three of this bunch were sold to a neighbor for feeding purposes, weighing a total of 660 pounds at 167 days old. The other six weighed 1,210 pounds, a total for all of 3,320 pounds and an average of 211 pounds. The other two I am keeping for future use. This record is taken from a day-book so there is no mistake about this report. I wish to state that these pigs had no balanced ration or scientific care, but clean feed and plenty of exercise and were put on new corn about September 10.

Jackson Co.

LEE HATCH.

Reports from Pike county, Illinois, are that in that important cattle producing region farmers have fair cattle supplies, but there is a great deal of sickness among the hogs. Farmers have scarcely any hay, and there are lots of fields of ruined corn and fodder as a result of the long rainy season.

J. B. Castagne, who for a period of 25 years has resided in Wyoming, says there will not be the big supply of sheep from that state next year that has been seen this season. Owners are compelled to ship out almost their entire holdings because they had no feed.

A TREATISE on the Horse— FREE!

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Is a safe and reliable remedy. It will cure King-bone, Splint and other bony enlargements. It is also a reliable remedy for Curbs, Sprains, Bruises, Cuts and Lameness. It does the work safely at small expense. Read what W. T. Sadler, Atlanta, Ga., care of Allen's pharmacy, writes: "Your Treatise on the horse received and contains many good formulas for treating stock. I have sold many bottles of your Spavin Cure and have never had a complaint from a customer."

And Mr. Wm. Booth, of Gravette, Ark., writes: "Your book is worth \$5.00 if only used as an aid in treating lameness. Shoulder lameness is the most difficult for an inexperienced man to locate. It is easy, however, with the help of your book."

Kendall's Spavin Cure is sold at the uniform price of \$1.00 a bottle, or 6 bottles for \$5.00. If you cannot get it or our free book at your local druggist, write us.

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United States Bonded Engine. Burns gas, gasoline, kerosene, distillate. Consider these **12 Advantages—12**
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Sandow \$37⁵⁰ 2½ H. P. Stationary Engine—Complete

Gives ample power for all farm uses. Only three moving parts—no cams, no gears, no valves—can't get out of order. Perfect governor—ideal cooling system. Uses kerosene (coal oil), gasoline, alcohol, distillate or gas. Sold on 15 days' trial. **YOUR MONEY BACK IF YOU ARE NOT SATISFIED.** 5-year ironclad guarantee. Sizes 2½ to 20 H. P., at proportionate prices, in stock, ready to ship. Postal brings full particulars free. Write for proposition on first engine in your locality. (110)
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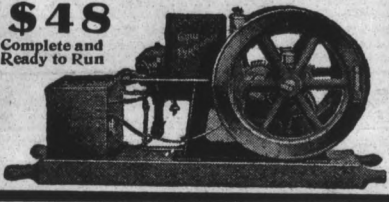
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1st Dam—Yg Suzette 28212 by Horace 7884 (891) by Fidele (638.)
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Berrien is dark dapple gray, 8 years old, weight 1850 lbs., sound, kind, and perfect manners, heavy boned, close coupled, low and "wide out." I sell because a large number of his colts and half brothers are owned in this vicinity. His colts are active, good walkers, hardy, and kind disposition. Berrien was never "traveled," always kept in large paddock. Come and see him. Picture if desired. Would take registered brood mare in part payment. Price \$1,000.

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Good Ones, the drafty kind, at prices which defy competition. Write us for particulars.

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Our summer importation, in our estimation the best lot of horses we have ever had at Oaklawn, has arrived. Numerous important prize-winners are included, then the high average is the main thing, as every animal would be a credit in any herd. Write us.

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FOR SALE—Just what your boy wants for Christmas. F 2 Shetland pony horse colts, 1 black & white and 1 black. Price \$60 each. J. A. Mitter, Stockbridge, Mich.

ARE FROZEN BEETS INJURIOUS TO LIVE STOCK.

The exceedingly early freeze-up caught me with my mangels still in piles in the field. I have been told that it is dangerous to feed frozen roots. We drew a load of them to the barn where they would thaw out and then thought we could feed them before they spoiled. The cows ate them good and have gained in their milk. Is it dangerous? Would a small feed once a day be liable to injure them? I have no silo and the total loss of succulent feed will mean less milk.

Genesee Co. J. W. T.
Nearly all of the agricultural papers have just recently warned stock feeders of that fact that it is dangerous to feed frozen beets to their stock. The November 17 issue of Hoard's Dairyman states that there was considerable loss to stock owners in Wisconsin last year by feeding frozen beets. In one instance a farmer boiled up a lot of beets and fed to the hogs. Almost the entire lot died in a short time from paralysis of heart action, occasioned, it is supposed, by serious gastric disturbance. The chemical changes caused by freezing and thawing evolve a poisonous principle. Dr. Hadley, of the Veterinary Department of the Wisconsin College of Agriculture, has made an investigation of these facts with the above conclusion.

I confess that this is the first time I ever heard that live stock would be poisoned by feeding frozen beets or frozen roots of any kind. I have fed frozen beet tops in the past on several occasions, sometimes they were frozen stiff. At the present time we are feeding beet tops that have been out in this severe freezing and have had no sick animals at all. They seem to relish the tops even if they are frozen, and eat them greedily and are doing well. Occasionally there is a beet that is left in with the top. Once in a while the small beets are not topped at all and these are left in, top and all, and again, in loading the beets sometimes a beet is left and gets mixed with the tops and the cattle eat these and always have, but we never had any of them poisoned so far as I know.

This fall my potatoes were not dug until after the first freezing. Some of them projected out of the ground a little bit and were frozen. We just nicely got the crop dug when the present severe weather came. I did not want to put all of the potatoes in a big pile in the cellar because I wanted to look them over carefully for fear we did not sort out all of those that were nipped by the first freeze and so I put some of them in a pit near the house. We were caught on this pit of potatoes with only a light covering and some of them around the edges were frozen. We are boiling these potatoes now and feeding them to the hogs and I never thought of such a thing as their being poisonous and although I am warned now from seemingly good authority that they are liable to be poisonous, we will continue to feed them and also the beet tops to the cows as we always have done, until we see some injurious effect.

Mr. Helmer Rabild, of the Dairy Division of the Department of Agriculture, recently visited me. He, as everybody in Michigan must know, is a Dane and in his native country beets are relied upon quite largely as a succulent food. We discussed this matter and it was news, and a surprise to him, to know that cattle would be injured by feeding frozen beets, at least in moderate quantities. He had known of its being done in the old country without any perceptible injury.

I do not want my advice nor my practice to in any way influence people on this subject. Undoubtedly, in the face of this evidence, some stock have been poisoned by frozen beets and it is probably not safe to use them, and yet, as I have stated, we have always fed these frozen beet tops, sometimes way into the winter, and never saw any injurious effect, and we shall probably do so until we do.

COLON C. LILLIE.

EXPERIMENTS WITH SWINE.

The Department of Agriculture has received a report of some experiments conducted with swine by the Ontario Agricultural Experiment Farm. Several experiments were made with 40 of these pigs to compare alfalfa, skim-milk, and pasture, using corn meal as a check. In 90-day tests the meal alone produced an average daily gain per head of 1.07 lbs.; meal and alfalfa pasture, 1 lb.; meal and green alfalfa in pens, 1.13 lbs.; meal and skim-milk in pens, 1.34 lbs.; meal, skim-milk, and green alfalfa in pens, 1.36 lbs. In these tests 1 lb. of meal was equal to 4.3 lbs. of green alfalfa or 6.79 lbs. of skim-milk. Valuing the pigs at \$5 each,

the skim-milk at 30 cents per 100 lbs. and the green alfalfa at \$3 per ton, the price received per ton for meal with the hogs selling at 5c per pound was \$20.45, and at 8c, \$53. It was also determined that the average cost per pig for raising 72 pigs to 11 weeks of age was \$2.46. This includes service fees, maintenance of dry sows, and value of food consumed by sows and litters, but does not include risk, interest, labor, and manure.

LIVE STOCK NOTES.

Mutton going into packers' coolers of late at current low prices for sheep and lambs has meant big profits to the packing interests. The surplus not needed immediately is laid away for future requirements, and by the time it is brought out sheep and lambs will be much scarcer and undoubtedly much higher in value. Meanwhile the enormous decline in prices that has been brought about by the glutted markets has also redounded to the interests of the men who seize the opportunity to load up with cheap feeders, and later on the inevitable shortage of live muttons will give them a fine opportunity to make nice profits.

The cattle arriving on the Missouri river markets are described as only ordinary in average quality, and throughout that part of the country, as well as farther east, choice beefs are becoming scarce. It is an undisputed fact that far less feeding is being carried on than a year ago. There is plenty of corn in most places, but many farmers regard prices for feeder cattle as too high. In parts of the west there is not one car load of cattle feeding where a year ago 40 or 50 car loads were fed. While the reasoning is not good, nevertheless the number of farmers staying out of cattle feeding because of bad luck a year ago is extremely large. Brighter men, seeing the improved prospects in sight, are going extensively into the business, arguing that purchases of well-bred stockers and feeders are good investments on the frequent breaks in prices.

The habit of having consignments of cattle and sheep on the Chicago market on Mondays and Wednesdays tends to glut the market on those days and causes many bad breaks in prices. Monday, especially, is a day of enormous supplies, and it is quite common to see much more than half of the cattle receipts for the whole week crowded into that day. Wednesday, however, is the great day for by far the principal share of these. That choice cattle offerings, Illinois furnishing state is maturing much larger numbers of prime beefs than any other state, and as farmers generally do not like to load cars on Sunday, they are in the habit of getting their stock marketed Wednesday.

John Donnell, president of the Carbon County Wool Growers' Association of Wyoming, who marketed 14 car loads of sheep on a recent day, is the owner of land covering a radius of 25 miles, beginning northeast of Rawlins and continuing down to the Medicine Bow river. He purchased this enormous tract of land at extremely low prices some years ago, before the rush of settlers began, and he is now one of the largest land owners in Wyoming.

Hundreds of sheepmen who have been shipping poorly fattened flocks of lambs and sheep to market of late because they objected to running up additional expenses in furnishing them feed will regret this in a short time, for the close of the range shipping season will make a big change in market conditions and give owners of fat stock a fine opportunity to make much better terms in selling. The great falling off in feeding operations nearly everywhere and the low prices paid for good feeding lambs, yearlings and sheep will make a combination strongly favorable for sheepmen who know the business. Lambs usually return the largest profits, as the popular demand is for lamb meat, and they always sell at a liberal advance in prices over those paid for sheep or yearlings, although fat little yearlings that can be substituted in the retail markets for lambs are good sellers. The great drawback to successful results has always been the failure of thousands of sheepmen to make their holdings fat enough, and it is usual on the appearance of severe winter weather to rush in large supplies of half-fat and warmed-up live muttons that have to be sold at a sacrifice.

The difference in prices paid for finished cattle and poorly fed lots in the Chicago market in recent weeks has been as much as \$3 to \$4 per 100 lbs. Such an extremely wide spread in values will not be seen in a short time, after the western range cattle are out of the way, and stockmen who have thrifty cattle on hand should hold them to maturity, notwithstanding the high price of feed.

Residents of the range states who are thoroughly informed on such matters say they never knew so few cattle on the ranges of Montana, Wyoming, North Dakota, South Dakota, Western Nebraska, Colorado, Utah, and the southwest as now. This is due largely, of course, to the influx of settlers and a shortage of feed.

Late reports from stations all through the state of Illinois continue to show heavy losses in the hog industry from cholera. The Springfield, Illinois, News, devotes half a page to an account of the losses sustained. It estimates the loss at a million pigs and states that whole herds have been wiped out. The demand for serum has been unprecedented, with the result that the supply has been insufficient, and it is stated that every county in Illinois has been affected.



How to Save Veterinary Bills

Horses are naturally run down at this season. They need the appetite-creating stimulus that they get only from pure cane sugar molasses.

John Freer, a Detroit team-owner, has been feeding Buckeye Feeding Molasses to his horses for three years. Read what he says:

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Properly mixed with feed it cleanses and purifies the entire system, resulting in better digestion, increased vitality, freedom from colds, heaves, worms, colic, cholera, dysentery, etc.

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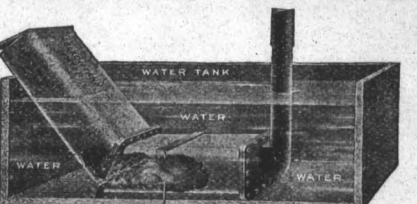
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VETERINARY

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

Scouring.—Some two weeks ago our 16-year-old horse commenced scouring and has kept it up ever since. He is fed corn, cornstalks, and oats in the bundle. G. W., Shelbyville, Mich.—Give your horse 3 drs. sub-nitrate of bismuth and 1/2 oz. prepared chalk at a dose in feed three times a day. If you will feed good oats and well cured timothy, it will help him.

Leucorrhoea.—I have a mare that is troubled with leucorrhoea and although she has been treated by a Vet. who helped her, this ailment has always returned. H. F. C., Vernon, Mich.—Chronic leucorrhoea is not easily cured. Give her 1 oz. bicarbonate soda and 10 drops creosote, "Beechwood," at a dose in feed three times a day. Dissolve 1 dr. permanganate potash in a gallon of tepid water and wash out vagina once a day.

Quarter Crack—Collar Boils.—I would like to know what can be done for a split hoof, the right fore foot seems split up to hair, but she shows very little lameness. Is there much danger of it festering? The man I bought her of told me it was caused by sleigh pole falling on it. I also have a mare that is troubled with collar boils and would like to know how I can get rid of them. F. E. P., Lake City, Mich.—Lower heels, thin the edges of hoof and burn through upper part of wall in order that hoof may grow down solid. The collar boils, if hard should be cut out. It is needless for me to say how important it is to have a well fitting collar. Every work horse is entitled to a good collar, for if not, he is liable to have sore shoulders or neck.

Chronic Garget.—Have a cow with a swollen udder, swells on one side one day and opposite side the other. Have had similar trouble with some of my cows recently and thought perhaps it might be infectious. H. W. H., Hersey, Mich.—Your cows suffer from infected udders and when the udder of a cow becomes thoroughly infected, she usually proves unprofitable for dairy purposes. Give her 1 oz. doses hypo-sulphite soda three times a day and apply one part iodine and 20 parts vaseline daily, for a few days.

Hock or Stifle Soreness.—My ten-year-old mare rests one hind leg after doing a hard day's work. She has been examined by two different Vets. One of them is inclined to believe she has an enlarged kidney, the other thinks it back trouble. This mare has no trouble in getting up and her water is all right. I have looked her over many times and believe the most of trouble is in stifle joint. C. B., Parks, Mich.—I can hardly agree with either of your Vets. If she had weak back she would get up with difficulty and horses seldom have enlarged kidneys. Apply one part red iodide of mercury and eight parts cerate of cantharides to stifle and perhaps hock once a week.

Preventing Milk Fever.—I have a valuable six-year-old cow that is due to come fresh the last of December. Last year she had an attack of milk fever, was treated by our local Vet. and well in a few days. What I would like to know is if she is more likely to have another attack and if so how can I prevent it? C. C. D., Grass Lake, Mich.—A cow that has once had an attack of milk fever is perhaps a little more likely to have a second attack, than if she had never had it. Feed her less nutritious food, exercise her more, keep her bowels open and avoid milking bag more than one-half or two-thirds empty for two or three days after calving and she will perhaps escape another attack. You should keep on hand a milk fever outfit. If you are not supplied The Lawrence Publishing Company can fill your order and save you some money.

Vaginal Polypus.—One of my cows has a bunch in vagina situated five or six inches from external opening and I would like to know if it is possible to remove it or not. E. L. L., Farmington, Mich.—Any Vet. can easily remove such a bunch without any danger to your cow. I have removed hundreds of similar bunches and the operation is usually successful.

Pigs Cough.—I have a bunch of pigs nearly four weeks old that have coughed ever since they were two weeks old. Some of them have vomiting spells and are not thriving. The sows are fed corn and skim-milk, they are housed in basement of hog house with ground floor. I might add they have access to pasture lot, but do not exercise enough. F. J., Jones, Mich.—Your pigs should be kept in a dry, clean place, and not allowed to run outdoors. It is sudden changes of temperature from hot to cold that causes them to cough. Drugging pigs four weeks old is not very satisfactory. The pigs may be wormy and if so give each one four drops of fluid extract spigelia and eight drops of syrup of senna at a dose twice a week if a second dose is required.

Dog Has Fleas.—We have a rough-coated dog that is troubled with fleas and I would like to know what will drive them away. G. H. H., Plainville, Mich.—Apply musk to your dog and this rank odor will drive the fleas from him. A strong odor of lavender will also drive most of them away.

ET Me Send You Proof

There is nothing like being sure. I will prove that my famous incubator—price only \$7.55, freight prepaid, sold on 1, 2, or 3 months home test—will out-batch any machine made, no matter what kind or price. Don't you want to be sure? Why pay more than my price for any machine defeated by my

World's Champion 140-Egg Belle \$7.55 Incubator

which is easiest to operate, surest of results. Let me send you proof in my big portfolio, "Hatching Facts"—it carries all the evidence—tells you how to start in the poultry business on a profit-making basis at a small outlay. Has double walls and door—and dead air space all over, copper tank, hot water heater, self-regulator, "Tyco" thermometer, egg-tester, safety lamp, nursery, high legs. My 140-chick Belle double wall, hot water, hot heat \$4.95 Guaranteed best brooder made. \$11.50 gets complete outfit when ordered together, freight prepaid to your door. Proves all. If in a hurry order right from this ad on Home Test Plan—thousands do. I guarantee satisfaction or return money. J. M. ROHAN, President Belle City Incubator Company Box 14 Racine, Wis.

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In Saskatchewan (Western Canada) 800 Bushels from 20 Acres

of wheat was the thrasher's return from a Lloydminster farm during one season. Many fields in that as well as other districts yielded from 25 to 35 bushels of wheat to the acre. Other grains in proportion. Large Profits are thus derived from the FREE HOMESTEAD LANDS of Western Canada. This excellent selling cause prices to advance. Land values should double in two years' time. Grain growing, mixed farming, cattle raising and dairying are all profitable. Free Homesteads of 160 acres are to be had in the very best districts; 160-acre pre-emption at \$3.00 per acre within certain areas. Schools and churches in every settlement, climate unexcelled, soil the richest; wood, water and building material plentiful. For settlers' low railway rates and illustrated pamphlet "Last Best West" and other information, write to Supt. Immigration, Ottawa, Can., or Can. Gov. Agt. W. C. McINNES, 176 Jefferson Ave., Detroit, Mich. C. A. LAURIER, Marquette, Mich.

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SEND FOR FREE CATALOG Dunham Pulverizers, Packers and Rollers are made suitable to every soil formation. Single and double gang pulverizers. Flexible and jointed-frame pulverizers. Combination surface and sub-surface packers. All steel land rollers. Pipe and T Bar Rollers. An average increase of 5/4 bushels per acre by using the Dunham. On sale near you. Shall we tell you where? THE DUNHAM CO., 20-20 First Ave., Berea, Ohio, U.S.A.

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CATTLE.

ABERDEEN-ANGUS. Herd, consisting of Trojan, Ericas, Blackbirds and Prides, only, is headed by Egerton W. A. Trojan, Ericas, by Black Woodlawn, sire of the Grand Champion steer and bull at the International in Chicago, Dec., 1910. He is assisted by Undulata Blackbird Ito. WOODCOTE STOCK FARM, Ionia, Mich.

AYRSHIRES—One of foremost dairy breeds; young bulls and bull calves for sale. Berkshire swine. Poultry. All pure bred. Michigan School for Deaf, Flint, Mich.

Guernsey Bull, eight months old. Adv. Reg. Ancestors have large milk and butter records. G. A. WIGENT, Watervliet, Mich.

For Sale—Two young polled Durham Bulls and five Durham Heifers and Cows. \$50 each if taken quick. J. E. OLARK, Milford, Mich.

HEREFORDS—Both sexes and all ages for sale. Also Poland China hogs. ALLEN BROS. Paw Paw, Mich.

"Top-Notch" HOLSTEINS. A fine young bull from an Advanced Registry dam, Iris Cornucopia, Count De Kol No. 7883, Born Oct. 13, 1910. Sire, Pietertje Hengerveld, Merced, King, Dam, Iris Cornucopia Pietertje Pauline, who has an official record at 2 years 20 days old as follows:—Milk, 1 day, 46.7 lbs.; milk, 7 days, 314.3 lbs.; Butter, 7 days, 14.97 lbs. She gave 823 lbs. milk in 315 days at 2 years old. Her dam has an official record of 17.2 lbs. butter in 7 days and gave 1102 lbs. milk in 306 days; and her granddam has an official record of 17.7 lbs. butter in 7 days, made at 14 years old, and gave 1497 lbs. milk in 315 days. The sire of this young bull is a grandson of Pietertje Hengerveld's Pound of 601 who has 8 daughters with official records that average over 30 lbs. butter in 7 days and 12 daughters that average over 100 lbs. milk in 1 day. He comes from large producers on both sides, is a good individual, nicely marked with more black than white. Weight, 550 lbs. Price \$100. McPHERSON FARMS CO., Howell, Mich.

I Did Not Sell 20 Holstein Bulls in Nov. I Want to Finish the Job in December.

Send for my Dec. Announcement. Select a bull from it, order him QUICK. Several from A. R. O. dams, and sired by Johanna Concordia Champion, the only bull in service whose grand dams average 34.06 lbs. butter in 7 days. Also yearling heifers bred to him. L. E. CONNELL, - Fayette, Ohio.

HOLSTEIN BULLS FOR SALE

Registered bulls from four to ten months old for sale that are closely related to Hengerveld De Kol, De Kols 2nd Butter Boy 3rd, and Colanthe 4th of Johanna. The dams are heavy milkers and mostly in the A. R. O. Prices reasonable. Send for list. Bigelow's Holstein Farm, Breedsville, Mich.

HOLSTEIN BULL calf, sired by best son of Pontiac Butter Boy and from equally good dam. C. D. WOODBURY, Lansing, Mich.

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

REGISTERED JERSEYS For Sale—Some combine the blood of St. Louis and Chicago World's Fair Champions by HERMAN HARMS, Reese, Mich.

Jersey Bull Calf

Dropped Dec. 5, 1910. Sire, Marston's Interested Prince

Has three daughters in Register of Merit with yearly records. He is a son of Imported Interested Prince, 18 daughters in Register of Merit. Dam is No. 773 Register of Merit 11, 115 lbs. Milk, 511 lbs. Butter Fat, equal to 602 lbs. Butter in one year. 56 lbs. milk in one day.

Winner in Show Ring, also Competitive Dairy Test, Michigan State Fair. For price address T. F. MARSTON, Box L, Bay City, Michigan.

LILLIE FARMSTEAD JERSEYS.

Cows all in yearly test. Four Bulls old enough for service. Several splendid Bull Calves. A few Heifers and Heifer Calves. I guarantee satisfaction or money refunded. COLON C. LILLIE, Coopersville, Michigan.

Holstein Bulls from 2 to 12 months, grand sons of Hengerveld De Kol, King Segia, King Veeman De Kol, and King of the Hengervelds—all from grand old dams. Prices very low, breeding considered. Long Beach Holstein Farm, Augusta, Mich.

FOR SALE—3 yearling Holstein-Friesian bulls, also bred heifers \$150 to \$200 each. Bull calves \$40 to \$80, 33 years a breeder. Photos and pedigrees on application. W. C. JACKSON, South Bend, Ind., 719 Rex St.

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

Jersey Bull Calf for Sale—Sire, Register of Merit, Halseigh, St. Lambert bull. Dam, Register of Merit, one full sister and eight half sisters Register of Merit animals. WATERMAN & WATERMAN, Ann Arbor, Mich.

JERSEY BULLS FOR SALE

Sired by Temisia's Interested Prince 71648, whose dam made 733 lbs. butter in one year, authenticated test. Choice individuals. Prices Reasonable. BROOKWATER FARM, ANN ARBOR, MICH., R. F. D. 7.

Red Polled Bull Calves 6 to 7 months old \$40 to \$50. Cows \$50 to \$75. Also Percheron Stallions 3 years old, fine style, a big bargain at \$250. E. BRACKETT & SON, Allegan, Mich.

FOR SALE—2 Yearling RED POLLED BULLS, price \$60 each if taken now. J. M. CHASE & SONS, Ionia, Mich.

Dairy Bred Shorthorns—A few bred heifers for Cash or good note. J. B. HUMMEL, Mason, Mich.

Choice Yearling Shorthorn Bull for sale. For particulars write to Meyer Bros., R. No. 7, Howell, Mich.

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

CHOICE DELAINE RAMS AT HALF PRICE TO CLOSE OUT. Also bred ewes. S. H. SANDERS, Ashtabula, Ohio.

Oxford Down Sheep—Good Yearling Field Rams and ewes of all ages for sale. I. R. WATERBURY, Highland, Michigan.

Oxford Ewes—Registered and bred to imported rams for sale at farmers' prices. Address B. F. MILLER or GEO. L. SPILLANE, Flint, Michigan.

Rambouillet Rams—Good ones at farmers' prices. Also ewes and ewe lambs. A. E. GREEN, Orchard Lake, Mich. Bell phone.

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Oak Hill Stock Farm VON HOMEYER RAMBOUILLET RAMS at farmers' prices for the next 90 days. Large, plain, heavy fleeced. C. E. LOCKWOOD, Washington, Mich.

MAPLE RIDGE SHROPSHIRE—For sale the imp. ram, The Manager, and yearling rams and ewes sired by this noted ram. H. Stewart, Lenoir, Mich.

For Sale—Eight choice Shropshire Yearling Ewes cheap. JONES & MORRISH, Flushing, Michigan.

SHROPSHIRE registered ram lambs \$12 each. Also a few O. I. C. Boars for sale. C. J. THOMPSON, Rockford, Michigan.

WANTED—One hundred two and three-year-old Shropshire ewes and three rams if ewes are not bred (which I would prefer.) Will dealers write giving quality and price f. o. b. at their stations. JOHN L. BUELL, Quinnesec, Dickinson Co., Mich.

Shropshire Bargains: EWES and RAMS—Forty big, strong well covered yearling rams from imported sires. Satisfaction guaranteed. J. E. OTTAWAY & CO., Flushing, Mich.

CHROPSHIRE yearling Rams and O. I. C. Spring Boars & Sows. One yearling Boar, Shropshire ewe lambs later. E. E. BEACH & SON, Brighton, Mich.

Polled Delaine Rams for Sale.

F. L. BROKAW, Eagle, Michigan. HOGS.

Durocs and Victorias—Elegant spring pigs, either sex, as good as the breed produces at living prices. M. T. STORY, R. F. D. 4, Lowell, Mich.

Berkshires—Bred sows, bred gilts and boars ready for service. The best of breeding, splendid individuals with fancy heads, at reasonable prices. C. O. COREY, New Haven, Michigan.

Thoroughbred Berkshire Brood Sows for Sale, two years old, magnificent specimens. To farrow January and February to high quality boar. Very prolific. About 30 lbs. Only \$45. ROUGE MONT FARMS, Detroit, Michigan.

ENGLISH Berkshire hogs and Oxford Down sheep of both sexes and all ages, priced away down for quick sale. Stock guaranteed. E. B. HEAVEY, Akron, Mich.

FOR SALE, BERKSHIRES—2 boars & 3 gilts farrowed in June also a choice lot of Aug. and Sept. pigs, sired by Handsome Prince 3d & Marion King. A. A. PATTULLO, Deckerville, Mich.

Berkshires—Buy a service Boar now, cheap. Other stock also for sale. C. S. BARTLETT, Pontiac, Mich.

PURE O. I. C's—Bred from prize-winners and strains, the quick growth and large type. Both sexes, not akin, this spring farrow. Call or write. F. A. C. SCHWELTERMAN, Montezuma, O.

O. I. C. SWINE—My herd is chiefly descent of the Royal strain both males and females. Write for Live and Let Live price on pairs and trios, not akin. A. J. GORDON, R. No. 2, Dorr, Michigan.

O. I. C. SWINE—Males weighing from 175 to 250 lbs. each. Also a very choice lot of gilts. GEO. P. ANDREWS, Danville, Ingham Co., Mich.

O. I. C's for Sale—Best quality, large growth type, either sex, pairs not akin, some fine bred gilts, choice lot of fall pigs all ages. OTTO B. SCHULZE, Nashville, Michigan.

O. I. C. Swine of right type and breeding. Write your wants. OTIS GREENMAN, R. 4 Bellevue, Mich.

O. I. C's—Boars all sold. Choice young sows weighing 180, also 60 Aug. & Sept. pigs, either sex, pairs not akin. Order early. Fred Knick, Monroe, Mich., R.I.

O. I. C.—Spring boars all sold. A few lengthy gilts to be bred for April farrow. Choice Aug. & Sept. pigs, cheap. A. NEWMAN, R. No. 1, Mariette, Mich.

O. I. C. Choice Boars and Gilts. April, Aug. and Sept. farrows. Registered free in purchaser's name. Glenwood Stock Farm, Zeeland, Mich. Phone 94.

O. I. C. Chester Whites and Tamworth swine won 245 1st at Fair in 1911. Service boars, also sows bred for spring farrow of either breed that will please you in quality and price. Adams Bros., Litchfield, Mich.

Improved Chesters—Young breeders of March, April and May farrow, either sex. A few tried sows for sale when bred. Also Holstein cattle. W. O. WILSON, Okemos, Mich. Both phones.

DUROC JERSEYS—Nothing for sale. CAREY U. EDMONDS, Hastings, Mich.

DUROC JERSEYS FOR SALE—Special prices for December. JOHN MCNICOLL, R. No. 1, North Star, Mich.

DUROC-JERSEY BOARS of the large, heavy boned type and good in quality, also gilts and fall pigs for sale. M. A. BRAY, Okemos, (Ingham Co.) Mich.

FOR SALE—DUROC-JERSEY bred sows, pigs and Shepherd Pups. Express prepaid. J. H. BANGHART, Lansing, Mich.

30 High Class Boars ready for service. Special prices for 30 days. Pleas of growth, style and finish. Satisfaction guaranteed. Come or write. J. C. BARNEY, Coldwater, Mich.

LARGE TYPE P. C.—Largest in Michigan. Pigs from mammoth sires and fall pigs, 4 months. My motto: "Not how cheap but how good." Will pay expenses of those who come and do not find what I advertise. W. E. LIVINGSTON, Parma, Mich.

BUTLER'S BIG TYPE POLAND-CHINAS—size, bone, big fall boars at \$25; 100 spring pigs \$10 to \$15; 50 fall pigs \$5 each; 50 registered Shrop bucks at \$10 to \$15; 5 reg. Jersey bulls at \$15 to \$25; 50 reg. Shrop ewes at \$10. We are the farmer's friend. J. C. Butler, Portland, Mich.

Poland Chinas—Spring and fall pigs of large and medium style, at right prices, either sex. E. D. BISHOP, Route 35, Lake Odessa, Mich.

For Sale—Thoroughbred Poland China Swine. Prize winners at State and County Fairs. W. F. QUIRK, Big Rapids, Michigan.

POLAND CHINAS—Home of Michigan's Grand Champion Boar; large, growthy spring boars and gilts by this sire; they're priced right. E. J. MATHEWSON, Nottawa, Mich.

Poland Chinas—Extra good spring and fall pigs either sex. L. W. BARNES & SON, Byron, Shawansee Co., Mich.

FOR SALE—Poland China boars and sows, Holstein bulls, White Holland Turkeys, Barred Plymouth Rocks, Collie Pups. L. Birkenstock, Fall River, Wis.

P. C. Boars and Fall Pigs of the right type. Also B. C. B. Minora fowls. Northrup and Canada stock. Satisfaction guaranteed. R. W. MILLS, Saline, Mich.

Poland Chinas—Bred from large type. Stock prices. W. J. HAGELSHAW, Augusta, Michigan.

Poland Chinas—Special sale on 1 yearling boar and fall pigs of both sexes. H. J. LANE, Clare, Michigan.

SPECIAL SALE on Poland China Boars, Sows Bred from Bull Calves. ROBERT NEVE, Pontiac, Mich.

Big Type P. C. Boars and Sows sired by expansion. A. A. WOOD & SON, Saline, Michigan.

Three Extra Good Fall P. C. Boars

By Next In Line. 3 spring male pigs ready to ship. I ship C. O. D. and furnish pedigree promptly. If you want good as the best, write me for prices. WM. WAFFLE, Coldwater, Michigan.

Mulefoot Hogs—Stock of all ages for sale. Price right. Best quality. Bred sow Sale Feb. 1, at Lima. G. C. KREGLOW, Ada, Hardin Co., Ohio.

PURE BRED YORKSHIRES, all ages, both sexes. Cut prices for 30 days on boars old enough for service. M. O. WILSON, Morley, Mich.

Lillie Farmstead Yorkshires. Boars old enough for service. A few bred Sows, Fall Pigs, pairs and trios not akin. I will sell you fall pigs at prices that will surprise you. Satisfaction guaranteed. COLON C. LILLIE, Coopersville, Mich.

Large Improved Yorkshires—5 boars for sale. Farrowed July 11. Price reasonable. Address W. H. PARKER, Grand Blanc, Mich.

POULTRY AND BEES

POULTRY AS A FACTOR IN DIVERSIFIED FARMING.

The oft-repeated statement that, upon the general farm, poultry is seldom given the attention which it deserves is too often true. Diversified farming has an advantage over specialized farming in that the farmer is not entirely dependent upon one crop or product. Upon the general farm poultry is simply one of a variety of interests to which the farmer looks for his livelihood and profit. The fact, however, that he is not dependent upon a single crop or product does not excuse neglect or out-of-date methods in the handling of one of his varied interests, for it should be clear to anyone that the loss sustained in one branch is pretty apt to offset the profit from another. The ability of poultry to more than pay its way and to become a prominent factor in successful diversified farming, has been demonstrated by many good farmers, but the fact remains that upon a great many farms poultry is an expensive luxury rather than a profit-yielding branch of the diversified farming system being carried on.

Raising chickens, like raising any other kind of farm stock, is profitable according to the degree of knowledge, and painstaking attention devoted to the business by the raiser. By some farmers chickens are not believed to be profitable, and raising them is looked upon as a business scarcely deserving the attention of men. The man who takes an interest in fowls, and gives them his personal care, is frequently dubbed a "hen granny," a term of contempt. But it is really a business of greater dimensions than most men think. In the report of the Secretary of Agriculture we find the following: "The eggs and poultry produced on the farms are worth as much as the cotton crop, with seed included; or the hay crop, or the wheat crop."

In the first place, the man who keeps chickens at all should have a good house in which to shelter them. It need not be expensive, but, in whatever style it may be built, two things are absolutely essential, and without these success cannot be expected. The building must be wind proof and water proof—the roof must keep out the rain, and the sides must be tight enough to keep out the wind and snow. There is much talk about "cloth fronts," and, perhaps, good thick tent cloth will take the place of boards, but will not be much cheaper nor last nearly so long. Chicken houses are usually built with a shed roof, but the ridge roof costs only a little more and looks much better. My henhouse is 10x16 feet, and eight feet high to the plates, with a ridge roof. For the weatherboarding, inch boards were nailed to the sills and plates vertically and the cracks battened. It is shingled with pine shingles and has a latticed cupola for ventilation when the door and windows are shut. The floor is made with planed boards and therefore easily swept. The outside door is in the side opposite the prevailing wind; there is a glass window to the left of the door, and another in the opposite gable. There are two apartments—the one for a feeding and nesting room, and the other for the roosting room. The door between the two apartments can be closed when occasion requires. The perches are all of the same height from the floor to prevent quarreling over the highest seats, and a hen ladder leads to them.

Authorities are not agreed in regard to the amount of floor space needed for each fowl to preserve health. My opinion is that four or five square feet for each fowl is none too much.

Cleaning roost rooms is too much neglected. Some farmers do not clean them oftener than once a year. Once a day would be more nearly the proper thing where many hens are kept, as the fumes from droppings that are allowed to accumulate under the perches will cause disease.

After the building and equipping of a house comes the selection of a breed. Any of the improved breeds that has been kept pure is superior to cross-breeds. It is better to keep a single breed than to have three or four and get them mixed, as will inevitably be the case. Where a large amount of flesh is desirable an Asiatic breed is the one wanted. These fowls will not lay as many eggs as some of the smaller breeds. Where eggs are in greater demand than broilers, the smaller breeds will be the more profitable, and it is claimed that the Leghorns are

at the head of the egg-producing list. I have had experience with the Black Langshans, White Wyandottes and Plymouth Rocks, and could never decide which breed was the best.

Even where widely diversified farming is practiced poultry can and should be made to pay the same as any other branch of the business. By means of proper fencing the fowls may be excluded from the lawn and garden, and there will still remain, upon most farms, sufficient range to supply an ordinary farm flock at least half of the food the fowls require during the growing season, and this without visiting the grain fields, which they should not be allowed to do. A flock of healthy, thrifty fowls may thus be cheaply reared which at the close of the season may be quickly fattened by forced feeding in crates and turned into cash, or, in case the laying breeds are raised, the females may be given suitable quarters in which, under proper feeding, they will yield a steady income throughout the winter.

Pa.

J. W. INGHAM.

MARKETING EGGS.

In marketing eggs it is a decided advantage financially to seek private customers, the same as many do with butter. In order to secure such a trade one must be extremely particular about the quality and also about the appearance of the product offered. A soiled egg should never be included, nor any not strictly fresh. Eggs of doubtful origin may better be left at home where they can be tested out. A single bad one in a lot is sufficient to make a customer suspicious. The idea is to establish confidence in the product, and to this end every egg should be guaranteed.

Uniformity of size and color is desirable. Either brown or white shells look more attractive by themselves than when the two colors are placed in the same package. Extremely small eggs are not satisfactory to the customer who is paying a fancy price, nor should he be asked to accept them. It is good policy to cull to a uniform size, when they fall far below the standard, and leave out the small ones.

As to the package, the cartons holding one dozen each are to be had at very small expense and, in, working for a fancy trade nothing else should be considered. These may be had stamped with the name of the farm if desired, a feature which it is well to consider.

In any sizable city or town are plenty of people who will pay more than the market price for eggs that come to them under a positive guarantee such as above suggested. It means a good deal to one dependent upon buying to know that every egg can be relied upon, and such a product will command a fancy price any day in the year.

ELLA E. ROCKWOOD.

TREATING CANKER IN CHICKENS.

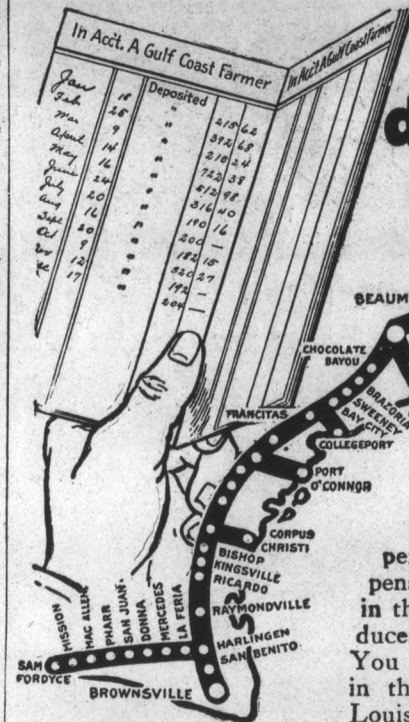
Canker is quite prevalent among fowls at present on account of the very cold rainy weather. I have had considerable experience in successfully treating this disease and will give my method.

The symptoms are yellow matter of a cheesy appearance attached to the membrane of the throat, windpipe or eyes; matter has offensive odor; when windpipe is affected the chicken breathes heavily and often wheezes. This disease is similar to diphtheria and very contagious. The causes are exposure to wet and cold, poorly ventilated damp houses, and great variation between day and night temperatures.

To check its progress in the flock, separate the diseased chickens from the others and place them in a clean airy coop. Color the drinking water of all fowls pink with permanganate of potash. Clean out the house and put in fresh litter. Remove the windows and cover the openings with muslin. Spray a weak coal tar solution over the chickens on the roosts.

For treating the sick fowls, take a small stick about six inches long and whittle one end flat or spoon shaped. With this stick remove every particle of cheesy matter from the mouth and throat. The spots will bleed a little but this will do no harm as you must get rid of the yellow matter of you cannot cure the fowl. When this is off, dip a clean feather into peroxide of hydrogen and touch it to every portion of the membrane from which matter was removed. This, when thoroughly applied, will just about clean out the canker. Repeat if necessary until the affected membrane becomes normal.

If this disease is allowed to run until



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You may have heard of the big profits growers in the Gulf Coast Country of Texas and Louisiana make from garden truck; but don't get the idea from this that you can't grow staples there. This Country is as much better than other places, for staples, as it is for garden truck. This year Wm. Borchett, of Mercedes, who planted

24 acres of alfalfa, netted \$1872

in the Rio Grande valley of the Gulf Coast Country of Texas and Louisiana. He cut 7 tons to the acre and sold it for \$16 a ton, or \$2688. Planting, water, cutting and baling cost \$816, leaving a net profit of \$1872, or \$78 an acre.

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One on the mid-coast country of Texas, one on the lower irrigated sections of the Rio Grande Valley, and one on Louisiana. They show scenes in actual colors, and describe the country and crops, giving personal statements by men who have gone there and made good. Write for your free copies today.



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raised in Southern Alabama, Western Florida and along the Gulf Coast, with shipping season commencing early in March, and commanding from \$2.00 to \$2.50 per crate at shipping point. This same land then planted in sweet potatoes will yield \$100 to \$150 per acre, and, in addition, an excellent forage crop, making

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the cankerous growth invades the windpipe, it is doubtful whether you can cure the fowl. The most I have been able to do in such cases is to attempt to remove the matter with a feather, removing the web from the feather except at its tip, dipping it into the peroxide and twisting it about in the windpipe after the fashion of using a feather in removing gape worms from the windpipe of a growing chick. However, I do not think anyone has been successful in scraping off a growth of canker inside the windpipe, and unless it can be removed the fowl will suffocate. As long as the canker does not enter the windpipe it is easily cured.

Mrs. A. D. PITCHER.

WAY OF INTRODUCING QUEENS THAT HAS ADVANTAGES.

Last year I tried a new method of introducing queens which proved quite successful. My plan is to go to a hive to which you wish to introduce a new queen, taking out about four frames of capped brood with all the adhering bees and putting them into an empty hive. Be sure that you leave the old queen in the old hive. On top of the frames in the new hive place the queen cage containing the new queen, close up the hive and contract the entrance to about an inch. The older bees will leave the hive and join the old stand, but the young bees will liberate the queen in two or three days and accept her all right. After she has begun laying you can go to the old hive and kill the old queen. After about two days of queenlessness the bees in the old hive can be taken out, frames and all, and transferred to the new one. They will almost always unite with the young bees peaceably. The advantages of this method are that you can introduce a queen the same day you receive her, and the old queen keeps on laying while the young one is being introduced. Should the bees prove hostile to the young queen and kill her, we still have the old one left, laying away without interruption.

New Jersey. F. G. HERMAN.

PROGRAM FOR MICHIGAN BEE-KEEPERS' ANNUAL MEETING.

The annual meeting of the Michigan Bee-keepers' Association, to be held at Saginaw next week, will comprise four sessions, the first of which will convene at 1 p. m. Wednesday, Dec. 12. This session will be strictly a business one and therefore fully as important to all members of the Association as those which follow. In addition the address of President Townsend and the annual report of Secretary-Treasurer Tyrrell, a revision of the constitution will be up for adoption. The election of officers and a general discussion of questions of business will also occur at this time. The program announced for the remaining sessions is as follows:

Wednesday, Dec. 13, 7 p. m.
The Foul Brood Fight in Michigan, Inspector G. E. Sanders, Lansing.
What shall be done to prevent the spread of European foul brood? E. R. Root, Medina, Ohio.
Foul brood legislation, E. M. Hunt, Lansing.

Thursday, Dec. 14, 8:30 a. m.
What is the next best move for the Association to make? Jenner E. Morse, Saginaw.
How to run an apiary to best control the spread of foul brood, A. H. Guernsey, Ionia.
Out-apiaries, Ira D. Bartlett, East Jordan.

The future of Michigan bee-keeping, E. D. Townsend, Remus.

Thursday, Dec. 14, 1 p. m.
Production of comb honey, L. S. Griggs, Flint.

Production of extracted honey, L. C. Wheeler, Barryton.
Honey exhibits at fairs, C. M. Nichols, Addison.

Bee-keeping for ladies, Mrs. S. Wilbur Frey, Sand Lake.

An exhibition of apiary products has been provided for through the offering of first, second, and third premiums for each of the following: Best 10 sections of comb honey; best 10 jars of extracted honey; three best sections of white comb honey; cleanest sample of 10 lbs. beeswax.

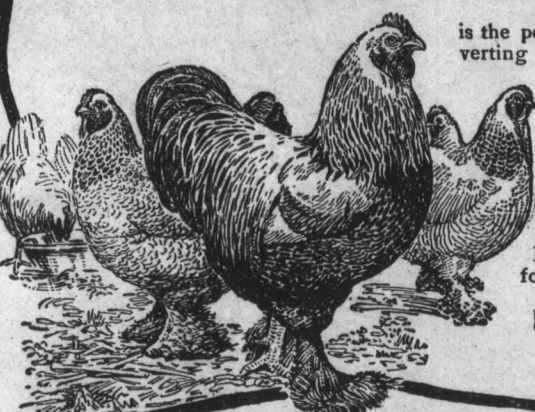
"First Lessons in Bee-keeping"

is the title of a recently issued revision of the book, "Bees and Honey," published some years ago by the late Thomas G. Newman, then editor of the American Bee Journal. The work of revising the book and bringing it fully up to date was performed by C. P. Dadant, a recognized authority on bee-keeping in both America and Europe. The result is a neat volume of nearly 200 pages especially adapted to the needs of present and prospective bee owners who have had little or no experience in the business. In his presentation of methods the author has limited the choice to the most simple ones available at the present time, the only other requirement being that they shall be entirely safe and practicable. The book, bound in paper, and profusely illustrated is from the press of the American Bee Journal, Chicago. The price, postpaid, is 50 cents per copy. It may be ordered through the Michigan Farmer.

A Sure Way To Get More Eggs

Remember it is not always the amount of ration a hen eats that goes to make eggs, but the amount she digests—keep that fact uppermost in your mind—act on it—and you'll make the egg business a paying business. Dr. Hess has compounded a number of bitter tonics which help the hen to digest more of her food and thereby increase her egg yield.

DR. HESS Poultry PAN-A-CE-A



is the personal formula of Dr. Hess (M.D., D.V.S.); it solves the problem of converting nutritious food elements into eggs by sound digestion. By exactly the same process, Dr. Hess Poultry Pan-a-ce-a fattens broilers and helps the chicks to vigorous maturity. A penny's worth feeds thirty fowl per day—sold under the most liberal guarantee.

Our Proposition—You buy Dr. Hess Poultry Pan-a-ce-a of your dealer. If it fails to make your hens lay more eggs and keep your poultry healthy, he is authorized by us to refund your money. 1½ lbs. 25c; mail or express 40c; 5 lbs. 60c; 12 lbs. \$1.25; 25 lb. pail \$2.50; except in Canada and the extreme West. If your dealer cannot supply you, we will. Send 2c for Dr. Hess 48-page Poultry Book, Free.

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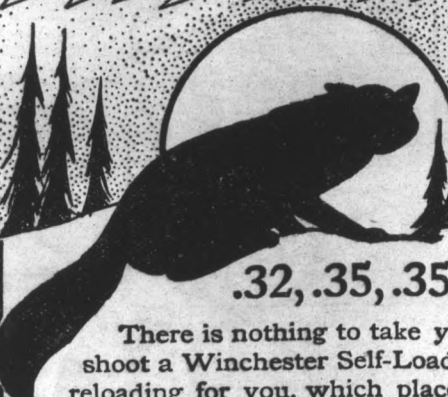
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26 years of honest dealing and thousands of testimonials from trappers testify as to straightforward treatment of my shippers. I pay express charges on all shipments over \$10, and remittances are forwarded same day furs are received. I do not solicit shipments amounting to less than \$10.00. Any shipment of furs held separate for your approval if you request it. I will telegraph valuation upon consignments amounting to \$100.00 or upwards. Write to-day for full information, latest prices and valuable advice. I will give you my personal attention. Address: Milton M. Sloman, Mgr., **M. SLOMAN & CO.**, 131 Congress St., West, DETROIT, MICH. 103 Church Street, TORONTO, ONT.

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CHOICE S. C. B. ORPINGTONS—Cockerels of April and May hatch. OTIS GREENMAN, R. 4, Bellevue, Mich.

MY entire stock of thoroughbred S. C. Brown Leghorns and business for sale. Write or call LEWIS T. OPPENLANDER, R. No. 4, Lansing, Mich.

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BUFF & White Orpingtons, Buff & White Leghorns B. Barred & White Rocks, & R. C. Rhode Island Reds Ckls. Selects \$3, Mediums \$2, Utility \$1.50 each Satisfaction guaranteed. H. H. KING, Willis Mich.

LILLIE FARMSTEAD POULTRY B. P. Rocks, R. I. Reds, W. Wyandottes and S. C. W. Leghorn eggs for sale. 15 for \$1.25 for \$1.50; 50 for \$2.50. COLON C. LILLIE, Coopersville, Mich.

MAMMOTH Bronze Turkeys—Large vigorous birds, May hatch. Toms, \$5; hens, \$4. Silver Wyandottes, cock \$1.50. E. H. & J. A. Collar, Coopersville, Mich.

ROSE COMB BLACK MINORCA and GOLDEN R. WYANDOTTE cockerels, \$1.50 each; Minorca hens \$1 each. E. D. Van Natter, R. 3, Standish, Mich.

SILVER Golden and White Wyandottes of quality, young stock after November 1st. Fine circular free. A few white roosters. O. W. Browning, Portland, Mich.

White Wyandotte cockerels \$2.50, \$3 and \$3.50, from thoroughbred stock and heavy layers. A. Franklin Smith, R. F. D. 9, Ann Arbor, Mich.

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THE DAIRY

CONDUCTED BY COLON C. LILLIE.

THE MAN AND THE DAIRY.

"It takes brains to farm nowadays," is an expression frequently heard. Anyone who has to do with farming is willing to grant the correctness of that view. Granting that, there is no one to deny that dairying requires as much or more mental ability than does any other line of farm work. The day when brawn was the chief asset required of a farmer, has passed. Indeed, we may doubt if it ever existed. Brains now are the requirement—knowledge and power to think, combined with executive ability. All these, with some degree of physical effort, almost insure success.

A dairyman must love his work. He must believe that farming is among the best of all occupations and that dairying is to be preferred of all agricultural occupations. Then he must love his cows. A short time ago the writer was on the farm of one of the most notable and successful dairymen in all America. When a man loves his cows he will consider their wants; he will see that they are comfortable; he will provide feed that is healthful, that is appetizing and from which the cows can make an abundance of milk.

The dairyman should be well informed along all lines that pertain to his work. To be a good feeder requires as much skill as it does to be a specialist in some line of city work. Poor methods of feeding are wasteful—they do not give a maximum production of milk; second, they may be actually harmful to the cow; they are usually expensive. Feeding is an art. It is difficult and can be acquired only through study, thought and experience.

A dairyman needs to be a thorough business man. He is concerned with the market in both selling and buying. He has additional stock, or feed, or other raw material to buy. He has his dairy products and surplus stock to dispose of. The hired help problem must be faced by anyone who runs a dairy. This question is no longer the serious problem that it once was. Dairymen have reduced their work to a sort of system and order and pay wages that are somewhat above those paid the ordinary farm hand.

The dairyman must be a man who can meet new and difficult problems as they may arise. The many details connected with the work make quick judgment and decision necessary. A dairy farmer must be everything from a separator engineer to a veterinarian and perhaps practice all of them, within a very short time.

Dairying is a line of agricultural work that appeals to young men with ability. Young men like tasks that are difficult and which try their talents. They are not looking for soft snaps. At the same time they find in dairying a line of work that will reward their efforts both financially and in public approval and a great many agricultural college graduates are taking up this line of work.

Dairying is one of the most humanitarian of the ordinary occupations. Milk is a popular food. It may easily be made impure, if not to actually carry disease germs. He who sells milk that is pure and wholesome and upon which babies may be fed with perfect safety is a benefactor. To supply pure sweet milk to hungry babies is doing much to carry out the requirements of the divine law, "Inasmuch as ye have done it unto the least of these ye have done it unto me."

A lecturer recently said of a successful and good dairyman, "When I stand in his presence I feel as though I am standing in the presence of one of God's noblemen." Truly, dairying is a calling well worthy of the best efforts of the brightest and most capable men.

Iowa.

H. E. MCCARTNEY.

PROPER MILKING REQUIRES SKILL.

There is no task more necessary to have done right than milking. Also, there is no other task on the dairy farm that is likely to be so poorly attended to. Anybody on the farm who can squeeze a stream of milk from a cow's teat is set at the work and those who do not know how are required to learn. Milking is something that does not require much strength and is usually not supposed to require any great amount of skill, so most anyone is regarded as being competent for the task. In the

days when butter was worth only a small sum there was no incentive for taking pains with the milking, but since milk and butter have become leading products on so many farms anything that will aid in giving better results should be practiced. Of course, the large number of cows kept on some farms makes the procuring of competent help very difficult. When the youngsters and inexperienced helpers are forced into service a careful watch should be kept over them to see that the task is well and properly done.

The very first thing to be impressed upon the beginner at milking is cleanliness. A person whose clothing is saturated or grimy with particles of dirt and whose hands are in need of a soap and hot water bath, is not likely to add anything to the cleanliness of the milk. The practice of milking upon the hand so as to wet the cow's teats should not be tolerated in any dairy barn. The cows should be brushed and care taken that, through kicking, switching of the tail or otherwise, none of the stable filth gets into the milk. About the best way of keeping filth out of the milk is to keep the stables clean. Efficiency in milking might be given as one of the fundamental laws of success in dairying. Efficiency includes proper way of holding the teats, rapidity and thoroughness of milking. The teat, if not too short, should be grasped with the whole hand, the index finger and thumb pressing, as the hand closes, a little more firmly than the lower fingers, thus forcing the milk downward instead of upward. Milking with the thumb and one or two fingers, slipping them down the teats, is neither quicker nor easier than the whole hand way and calls for the filthy habit of wetting the teats. To milk thoroughly means to get the last drop of milk and we know that the last milk is the richest. It is necessary to get that last drop, too, if the cow is to be kept up with her milk. Rapid milking, unless it be violent, stimulates the flow of milk.

Treatment, especially of the cow with a nervous disposition, has a great deal to do with getting best results. Loud talking, whistling or singing, to say nothing of rough handling, certainly does not make the cow more comfortable and cannot be conducive to a full and steady flow of milk. Do not give the cow a different milker and a different hour of milking each day. A change of milkers will often result in a decrease of ten per cent in amount of milk given by a herd. It is a good plan to have the same person milk the same cows all of the time. In that way both the milker and the cow will become acquainted with the peculiarities of the other and better results will be obtained. All of these things are matters that fit in with the program of economy and bigger profits that should be practiced by every dairyman whose heart is really in the business. If all the cow has is to be gotten from her she must receive attention and in no place between pasture field and consumer can the dairyman do more for his own benefit than by providing competent milkers.

Ohio.

SUBSCRIBER.

KEEP THE COWS CLEAN.

Every up-to-date dairyman knows that it is absolutely impossible to get clean milk from a filthy cow. In fact, the cleanliness of the cow is a very essential thing in producing pure dairy products.

Now it is a comparatively simple matter to keep the milk clean. Of course, more work is required to accomplish this when they are being stabled a good part of each day than when they are running in the pasture fields. In the latter instance they do not get particularly dirty, and all that is necessary to keep them clean is to brush them regularly and carefully each day. This grooming does not require much time, even to make a thorough job of it. The aim should be to remove all filth and dust from the sides and the udders of the animals before it has a chance to fall into the milk pail. Once one gets into the habit of doing this work and when the cows have become accustomed to being brushed, you will enjoy doing it and the cows will enjoy having it done. Go at it in a kindly, gentle way and the cows will soon learn to stand quietly while being groomed. Use a rather soft brush at first; later, a stiffer brush or even the curry-comb may be used without the cows offering objection. One minute's work on each cow every morning is sufficient to prevent any accumulation of filth.

When stabling, a little more work is necessary. Some precautions should be taken to prevent the animals from be-

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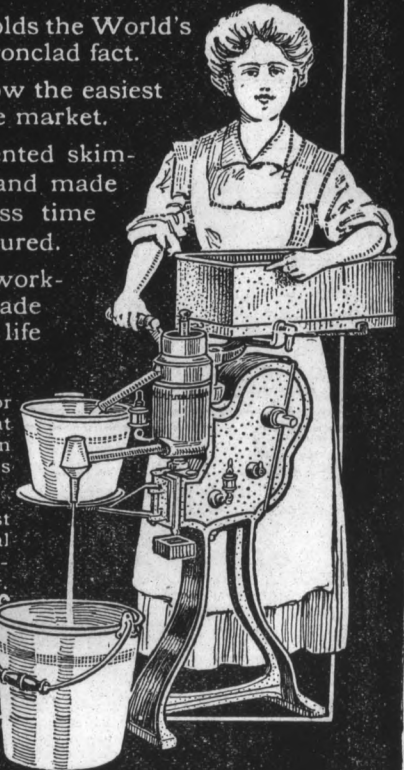
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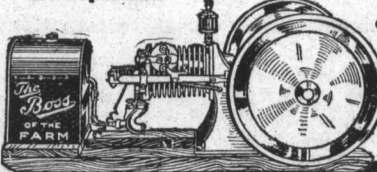


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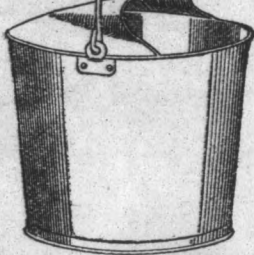
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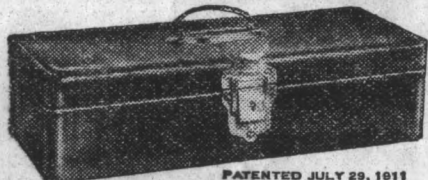
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and Sheep Hides. We shall be pleased to hear from
you. Write us for prices.

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536 Charles Street, Wellsburg, W. Va.

coming very filthy. Good drainage must
be provided so that the stalls will always
be dry, and then the stalls should be ar-
ranged with a drop behind so that the
animals will not lie down in the manure.
Then good bedding, which should be
changed frequently, ought to be provided.
An obstruction across the stalls just in
front of the cows hind feet will prevent
bedding from sliding back in the gutter.
It will also cause the cow to move for-
ward when she lies down, thus bringing
her whole body upon the clean bedding
in the stall. The size of the cow will
govern one in placing this obstruction
which may be a piece of 2x4 nailed fast.

The grooming must be kept up every
day in order that good results may be
obtained. Once damp dirt or manure is
allowed to remain on a cow until it be-
comes dry, the work of removing it will
be greatly increased.

Indiana.

WM. PURDUE.

THE CEMENT LINED OR LATH AND PLASTERED SILO.

I wish to build a silo in the spring and
wish to get out the timber this fall and
winter. First, the soil being sandy and
well drained, I wish to go down in the
ground about ten feet. Will I put the
studding at the bottom or build a stone
wall up to the surface? If so, how will
I build it and what will I have on top
of the wall to hold the studding? My
studding will be either hemlock or tam-
arack. I thought of cutting it 2x6 and
putting it 12 inches apart. Would the
ensilage crush out the lath at that dis-
tance? Would the tamarack do for lath
or would elm be best? Please give width
and thickness, size of nails to use, and
distance apart. Also tell me how to mix
the cement, what proportion? Would it
be better to put tarred paper on the stud-
ding under the siding to help keep it from
freezing? I am going to put on metal
siding if it will be strong enough. Could
I go below the level of the stable floor,
and how far, to be handy? How large
and how far apart should I make the
doors? Will I need hoops? I think of
building the silo about 10 feet on the in-
side and 34 feet high. Should this silo be
anchored, and if so, how?

Cheboygan Co.

W. S.

In the first place, I want to discourage,
if possible, W. S. from putting his silo
ten feet into the ground. I think he will
make a serious mistake. It will be much
easier to elevate the corn than it will be
to get the ensilage out of the bottom of
the silo when so far below the surface.
Not only that, but it will cost more to
build the part below the ground than it
will to build the same room above the
ground. It will be absolutely necessary
after making the excavation, to build a
circular stone wall up to the surface of
the ground. Excavating is expensive, as
is also the construction of stone wall,
since it would not do to put the studding
down into the ground because they would
soon rot and the whole silo would decay.
So it will be cheaper to build the silo
30 feet high above the ground than it will
to build it 10 feet into the ground and 20
feet above. However, the efficiency of
the silo will not be impaired by building
it in the ground, but you will have to
have a big bucket and windlass to get
the ensilage out, which you will find to
be slow work, and I am positive that you
will regret it if you put this silo down
into the ground. If you do not put the
silo down into the ground, of course you
must build a circular trench that will be
10 feet in diameter on the inside. This
should be dug about two feet deep, fill
with stone and grout and build it about
a foot above the ground. This will be
the foundation wall, and whether you
build this two feet, or 10 feet into the
ground, it will be necessary to put on a
circular sill on which to set your stud-
ding. This sill is easily made. Use inch
boards and lap them. Cement into the
stone wall 5/8-inch bolts, five or six of
them will be sufficient for this sized silo,
and have them stick up above two and
one-half inches and then put the sill on
over these bolts and put on good heavy
washers and screw them down. This will
make it perfectly safe so far as blowing
over or racking is concerned. The prob-
ability is that it never would stir any-
way, but it is well enough to take this
precaution.

If your silo is reinforced with hoops or
wire, as I think it should be, then 2x4
studding will be just as good as 2x6 and
it is not necessary to have them closer
together than 16 inches. I think the best
way to reinforce your silo is to wind wire
about the structure between the doors
using common No. 8 galvanized fence wire.
It will be well enough to go around the
silo two or three times with the wire
and staple it, or better still, tie it around
the studding on either side of the door-
way and then go around the silo two or
three times with it. If you do this there
will be no question whatever about the
strength of the silo. You can use any

kind of material for lath. These lath will
not be exposed to the elements at all,
they will be plastered over with cement
mortar and amply protected. If you can
lath this with half-inch stuff of your own
sawing it will spring around and fit the
silo nicely. You could take boards six
inches to a foot wide and then split them
with a hatchet as they used to in making
board lath or you can have the lath cut
out in strips two inches wide and put
them on that way. It is not necessary to
have lath thicker than one-half inch if
the silo is properly reinforced with wire
as I have stated. Probably, however, the
best lath to use would be plaster board
lath which is usually made six inches
wide with grooves cut in the six-inch
pieces to hold the mortar. These grooves
do not go clear through the board. The
lumber is matched. You put this on and
you have a matched lumber surface.
When you put on your plaster it helps all
the more to make an air-tight silo, but
any common lath will do. In fact, you
can use pieces of boards which you pick
up and cut them 16 inches long and nail
them onto the studding and put the plas-
ter over these. You don't want the cracks
too wide between your lath for cement
mortar. Of course, the size of the nails
depend on the size of the lath. If you
use the patent lath made out of three-
quarter-inch stuff you ought to use about
eight-penny nails. If you put on half-
inch lumber six-penny are plenty large
enough. In plastering the silo on the in-
side you should use cement mortar made
by mixing clean sharp sand with cement
in the proportion of two parts of sand to
one of cement. Be sure and mix it thor-
oughly dry before it is made wet, and
then wet it to the proper consistency to
plaster well. The metal siding will prob-
ably be all right, it, however, should be
painted or it will rust. This can be put
on with six-penny nails. The bottom of
the silo should be of cement and con-
structed as you would a stable floor.

THE PRICE OF DAIRY PRODUCTS.

It is only about a year ago that the
people of the cities, and even congress
itself, was much concerned about the
price of dairy products. They believed
that the Elgin Board of Trade and other
organizations, including the farmers
themselves, had boosted the price of
dairy products, up, especially butter and
cheese, to abnormal and unwarranted
prices. We all know that butter took a
tumble last February, and a decided one,
and it will again this spring when the
flush of the season comes. The high price
of these products now, butter, the whole-
sale price of which is quoted this week
on the Elgin market at 35 cents, con-
vinces the most skeptical that the high
price of butter is due to its scarcity.
We are not producing enough butter to
go around. Dairying does not increase as
fast as the demand, consequently those
who are willing to pay a good price for
good butter are forcing the price up. The
cause of this is largely due to the cost of
producing a pound of butter. The labor
question is very important. It is almost
impossible to get labor on a dairy farm.
The cost of feed is also important, and
then again, the agricultural products are
bringing better prices than ever before
and people can raise these with less
labor and they are neglecting the cows
and putting their efforts to raising corn
and oats and wheat and sugar beets. All
resulting in a less production of dairy
products and consequently in high prices.

PROTECTING CHEESES BY PAR- AFFIN.

Nearly all cheese of the Cheddar type
made in the United States, is paraffined
before it reaches the public. Yet it is
not more than six years since it became
a general practice, and less than ten
years that paraffining to protect from loss
of weight was first brought to the atten-
tion of cheese handlers.

At first the process was in order to
improve the appearance, but when it
was found that the protecting coat of
paraffin, to a great extent, prevented the
considerable loss of weight by evapora-
tion it became the usual treatment. A
circular just issued by the United States
Department of Agriculture discussing the
methods and results of paraffining cheese,
concludes that it is an effective way of
preventing losses in weight, and the
growth of mold; that for one to ten sec-
onds in a paraffin bath at 220 degrees F.
is sufficient; that treatment on the third
day after coming from the press gives
the best results; and that cheese should
not be allowed to remain in a warm cur-
ing room for more than one day after
paraffining.

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HORTICULTURE

METHODS OF GRAPE PRUNING.

Investigations carried on by Frederick E. Gladwin, horticulturist of the state grape experiment station at Fredonia, N. Y., has developed the fact that systems of trimming, and trellising grapes differ very widely in the different grape growing sections, and experiments being conducted at the Fredonia station are designed to prove whether or not different systems of pruning, training and trellising have any material effect in amount of fruit produced.

The reduction of every element in fruit culture to resultant pounds of fruit, or excellence of quality, is the real essence of every experiment, and the real test of results.

The general system in use in the Chautauqua grape belt, is the fan system, or the two arm, low renewal, both names indicating the same method. So general is this system that it is best known by the geographic term, Chautauqua system.

In this system of training, trimming and trellising, two wires are used, the lower wire about twenty-four inches above the ground, the second wire as much higher. The vine, when in its sec-

a few of them. First of all it brings the weight of the crop of fruit entirely on the upper wire and this must be carried by the tie. This weight causes many broken down vines and many broken ties, the pressure of the tie shuts off the flow of sap, to portions beyond the tie. This last is less important, however, as most canes are cut off with but one, or at the most two buds left above the top wire. Then occasionally, especially in poor growing years the necessary new canes are not produced. Sometimes they will not reach to the upper wire. Occasionally they are at the extreme end of the horizontal arm, and it is the effort of every grower to keep his producing canes near the central trunk. It is proven by years of experience that the best canes are always produced near the outer end of the permanent arm, nearest the light, air, and sunshine. Then from time to time the horizontal arm becomes broken, or diseased, and it becomes necessary to lay down a new one. This always affects the productivity of the vine for one or two years.

In spite of these defects, the method is strongly adhered to and the growers are "from Missouri," when it comes to taking up anything new. They point to the two economies of the fan system using only two wires instead of the three required by many other systems, and to the economy in the use of ties, requiring

The high renewal system, in which the main trunk is carried to the top wire, and side arms thrown out as in the low renewal system, looks as if it has possibilities, except that three wires are required to support the weight of the vines and fruit.

This leaves to be considered the umbrella system which Mr. Gladwin is developing, and which, with some modifications looks as if it had great possibilities. Mr. Gladwin uses but two canes to each vine in this system, growing them from a crown at the level of the lower wire. Long canes are required; one is bent to the right in a graceful curve up over the top wire, and back to the lower wire; the other bent in the same way to the left, up over the top wire and to the lower wire. Four ties are required, two on the top wire, and two at or near the extremity of the canes on the lower wire. New canes are produced from the crown; the fruit is produced from the buds on the canes bent up over the top trellis wire. A larger proportion of double and triple bunches is being produced than in any other system. The method has the benefit of simplicity, of producing the fruit from the extremity of the canes, where admittedly the best buds are formed, and of taking advantage of the well known plant law that the bending of the cane produces a better circulation of the sap. The only suggestion which might be added here, which Mr. Gladwin has not used, is the use of three canes instead of two in cases where there are not sufficient buds on any two canes to produce the maximum of the strength of the vine.

New York. A. M. LOOMIS.

THE OVER-PRODUCTION OF APPLES.

A large number of apple orchards have been planted by Michigan men during the past five years; others are becoming interested but many wonder if the planting is not being overdone. When all these orchards come into bearing will not the increased production make prices unreasonably low? It is difficult, in a matter of this kind, to determine exactly the quantity of trees that will be productive at a certain period. The best presentation can be but little more than a guess. Of a few things, however, we are certain.

One is that during the past decade there has been a wide expansion of the apple market. The improved organization of the industry, and better methods of distribution, have made it possible to supply apples for a much larger territory than heretofore, and to give us this "king of fruits" twelve months in the year instead of four or five. Both of these changes have improved the demand for apples. Then the people are coming to realize the healthfulness of apple eating and prefer to pay the fruit man for his product rather than to meet the doctor's bill. But with the increased demand due to these and other causes, there is another matter which parties who are skeptical about the future of the apple market should take into consideration, and that is a decided decrease in the output of our apple orchards during the past ten years. The following statistics, which are the most reliable that we have, give the number of barrels of apples yielded by the orchards of western Michigan for the past fifteen years.

Year.	Barrels.
1895	60,453,000
1896	69,070,000
1897	41,536,000
1898	28,570,000
1899	58,466,000
1900	56,820,000
1901	26,970,000
1902	46,625,000
1903	46,625,000
1904	45,360,000
1905	24,310,000
1906	38,280,000
1907	29,540,000
1908	25,450,000
1909	22,735,000
1910	24,000,000

It will be seen from these figures that the production in 1910 was less than one-half that of 1895, and that there has been a gradual decline in the amount produced from the earlier to the later date. This would indicate, when considered with the increased consumption of apples, that at present there is little danger of our fruit men planting too many apples. The orchards in the western states are rapidly finding markets nearer home which is gradually removing competition from that source; but if this were not true the eastern grower could put his product on the market at a price that would ruin the producers in Oregon and Washington were the latter compelled to send boxes of apples across the continent to our eastern markets and compete here with Michigan and New York fruit men.



Three Bunches of Grapes from Single Bud. Result of Proper Pruning.

ond year, is brought up to the lower wire and two arms laid down, one along the lower wire to the right, and one to the left. These two main arms are left as the basis for future growth and fruiting.

The next year four to six healthy canes are left growing from these two longitudinal arms, and are tied up to the upper wire. All other wood growth is cut off, and the lower two arms are cut back to the place where the outer canes are left to tie up. The four to six upright canes with the best buds, shortest joints, and best general condition of healthy growth are selected. The aim of this system of trimming is to leave canes sufficient in number and size to have about 45 fruit buds to tie up. It is estimated that every fruit bud will produce a shoot bearing one cluster of grapes, at least half the buds will bear two bunches of fruit, and sometimes several buds (as shown by the accompanying picture), will bear three fully developed clusters of fruit. This amount of fruit, approximating from 80 to 90 bunches, Chautauqua experience has shown, to be all that one vine should be expected to bear in a year, and retain its own, and the soil's vitality.

From year to year the same plan is followed. The lower horizontal arms are left on the lower wire, and latent buds from year to year bear the necessary new canes to put up for the coming year. So long as the new canes are produced each year, of sufficient size and vigor, and so located that they can be used, the system proves excellent.

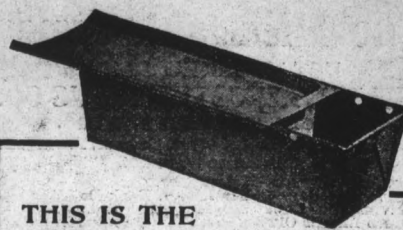
Yet it has its defects. Let us look at

but four to six to the vine; and also point to the perfect distribution of the canes, permitting almost the same distance between each two canes in an entire vineyard.

Horticulturist Gladwin is experimenting with five other methods, and one, at least, is showing wonderful results, in this, the first year's trial.

The first method he has in use is the Kniffen system with several variations. In this the upper wire is five and a half to six feet above the ground. One branch is carried straight from the parent trunk to the upper wire, and one branch only to the lower wire. These two are permanent. Each year two canes are laid from the taller branch, to right and left along the top wire, bearing half the crop and two canes are laid to right and left along the lower wire, bearing the other half crop. The advantage of this system is that as many buds can be left as the cane produced; the disadvantage is that more tying is required, and the lower wire is so covered by the foliage from the upper canes that the vine there does not get proper light and air circulation.

The horizontal arm spur system, using no lateral arms, but getting renewals from the crown of the parent trunk, and the Munson system with all canes carried to a five and a half foot wire, and then spread horizontally across two other wires at the end of eight inch cross arms, can both be dismissed from commercial consideration because they require three instead of two wires, and so too great an increased expense of installation.



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CURRENT COMMENT.

The Agricultural Possibilities of Michigan. It seems to be unfortunately true that Michigan people have

not in the past anywhere nearly appreciated the agricultural possibilities of our state. Michigan farm lands of the best quality have not and do not now sell at anything like the prices which have been reached by the better lands of the states to the south and west, particularly the corn belt states and the fruit lands of the far western states. Many farmers of the corn belt states have become informed with regard to this situation and have sold their high-priced lands and invested in Michigan, where they find equally as good farm land for about one-half the money per acre they received for their farms. Those who have come from the states which have enjoyed a great boom in the price of farm lands and invested wisely in Michigan have been not only fully satisfied with their change, but are in a good many cases more enthusiastic with regard to the agricultural possibilities of Michigan than are our own farmers who are similarly situated.

The great diversity of Michigan agriculture as compared with that of other sections, the adaptability of our soil to clover and other legumes, as well as the almost unlimited possibilities for fruit culture in Michigan have appealed to them more strongly than to our own citizens in whom familiarity with these conditions seems to have bred an unmerited contempt in many cases. Even the fruit growers in the far away states, where fruit production is the chief agricultural industry, seem to have a full appreciation of the natural advantages en-

joyed by lake-bound Michigan for the production of a great variety of fruits.

Yet, until recently, Michigan people have sat idly by and let western boomers attract many of our own people and induce them to invest money in western fruit lands at a much higher cost per acre than would be commanded by the best fruit lands in our own state, which excel those of any other state in natural advantages. During the present year western promoters having a fruit exhibit in the city of Detroit were said to have sold as high as \$75,000 worth of western land for fruit purposes within a single week to local people. Only last week, Michigan was honored by a visit from the governors of a number of western states who are touring the country in a special train, a prominent feature of which is an exhibit of western agricultural products, with a view to interesting the people of Michigan cities to invest their savings in western agricultural lands. The success of such advertising methods in the past has been in no small degree due to the indifference of the metropolitan press with regard to the agricultural possibilities of our own state.

This condition, however, has been radically changed during recent years, through the publicity given the possibilities of Michigan agriculture by the various development bureaus which have been organized, including the northern portion of our state which is awaiting full development at the hands of home-seekers. Only last week the local press commented at length upon an interview given out by a New York man who had traveled many thousands of miles throughout the west and northwest, including Canadian provinces, seeking the most attractive opportunities for investment in agricultural and fruit lands for himself and parties whom he represented. After an extensive search, he stated most emphatically that he found better opportunities in northern Michigan than in any other section which he visited, and as a result of his investigations he had purchased and taken options on several thousand acres of northern Michigan lands.

Undoubtedly this general appreciation of the agricultural possibilities of Michigan by the people of other states will be to the ultimate benefit of our agriculture, since the effect has already been felt in the advance which has occurred in the price of Michigan lands, but it should be more generally and fully appreciated by the people of our own state who desire to invest in land where conditions are most favorable for successful agriculture. There is certainly no occasion for such to seek opportunities for investment elsewhere, when those who have looked the country over for such opportunities find them most plentiful in our own state.

The live stock bred, fed and maintained upon Michigan farms will doubtless compare favorably from the standpoint of health and vigor with that produced in any section of the country. It is, however, an undeniable fact that a number of communicable diseases exist among the flocks and herds of some sections of the country at all times, and under modern commercial conditions these communicable diseases are often rapidly spread by the shipment of live stock from points of production, or from our large live stock markets, to interior points where they may be needed by farmers to supplement the live stock bred or maintained upon the farm. Also, it is often necessary for the breeder to bring breeding stock from some more or less distant point to his farm, and more or less danger of importation of communicable diseases exists in such movements of live stock as may be necessary or expedient.

The recognition of this fact was responsible for the law creating a live stock sanitary commission in Michigan, but unfortunately there has been a disposition on the part of many farmers and stock owners to feel that it was to their interest to conceal any difficulty which they might have with diseases in their flocks or herds from this commission, rather than to seek their aid in its elimination. This is a wrong impression, since it is not only better for the individual who is so unfortunate as to have an outbreak of some communicable disease among his live stock, to secure the co-operation of the State Live Stock Sanitary Commission in eradicating that disease at once and with a minimum of loss, rather than to take any risk of spreading it further or of infecting live stock which may be brought on their farms in the future through the presence of the disease germs which have not been destroyed about the

stables or on the premises. Certain communicable diseases of live stock seem to be more prevalent at this time of the year than any other, notably hog cholera, partly because there is a larger number of hogs at this season of the year, and partly because of the heavy feeding of new corn, with consequent digestive trouble and greater susceptibility to this and kindred diseases.

Fortunately for Michigan farmers, hog cholera has not been nearly as prevalent in this state this season as in some of the corn belt states, notably Illinois, where the losses have reached into the millions, notwithstanding the efforts made to fight the disease. It has been ascertained, however, by the State Live Stock Sanitary Commission that a number of outbreaks have resulted from the shipment of feeder hogs from the Detroit stock yards to interior points for distribution among farmers. To minimize this danger it is the expressed intention of the Commission to see that all hogs shipped from the Detroit yards to interior points be quarantined for thirty days on the premises of the purchaser, before their general distribution is permitted. This should prove a beneficial move in the interests of the hog breeding and feeding industry of the state, since it is much cheaper and more satisfactory in every way to prevent the possible spread of such a disease than to effect its eradication after a general outbreak has occurred.

Another communicable disease which has been brought into Michigan to some extent from other large live stock markets is sheep scab. This fact has threatened to have a serious outcome so far as the sheep feeding industry of the state is concerned, it having been stated upon good authority that the federal authorities have contemplated quarantining Michigan against the interstate shipments of sheep until this disease was fully eradicated. At a recent conference, however, between the members of the Michigan Live Stock Sanitary Commission and Dr. Ramsey, of the Bureau of Animal Industry, who came from Washington for the conference, a plan was adopted which it is hoped will prove effective without being any hardship to the sheep feeders of the state.

Under this plan four special government inspectors have been assigned different divisions of Michigan and will visit and inspect every farm upon which western sheep are being fed in Michigan, and at the same time will inspect as many native sheep as practicable in their trips through the state. The State Live Stock Sanitary Commission will co-operate in this work with the view of aiding any feeders who may have sheep affected with scab in their treatment in order that they may be cured and marketed with as little loss as possible and at the earliest possible date, consistent with the eradication of the disease, and the cleaning up of the premises to eliminate the possibility of infection of other sheep in the future. Another feature of the work of the federal authorities will be the tracing of sheep to the source from which they came with a view of eliminating the likelihood of bringing in infected animals in future years.

Another line of effort toward eliminating danger to the live stock interests in the state will be the undertaking by the State Live Stock Sanitary Commission of the enforcement of the law, which requires that all cattle brought into the state for dairy or breeding purposes be tuberculin tested. This is undoubtedly in the interest of the state. In recent years a good many dairy cattle have been brought into the state which have been purchased at a small price by speculators and sold out in widely scattered localities throughout the state. Quite generally these have been cows of poor quality, such as dairymen in other states have been most willing to sell when they have felt a shortage of feed. They will not ordinarily be the most profitable dairy cows, and it certainly is not wise to take any chances of bringing infected cows into a herd under these conditions. This law is sufficiently stringent in its terms so that the Commission should be able to enforce its letter, and there is no doubt that it would be to the advantage of dairymen as well as breeders, who certainly cannot afford to take any chances on bringing bovine tuberculosis into their herds, especially since compensation will not be paid by the state for condemned cattle which have been brought in in violation of this law.

In all of these matters, as well as in other cases in which any live stock owner may suspect that some communicable disease is present in his flock or herd, it will be to his interest to com-

municate with Secretary Halliday of the Live Stock Sanitary Commission, who can be reached at Clinton, Mich., without delay, since his ultimate loss will be lessened by the co-operation which the Commission will render in eliminating the disease within the shortest possible time, to say nothing of the loss to the community which might result from the spreading of such diseases if pains are not taken to confine them within their original boundaries.

The annual report of the Secretary of Agriculture, made public December 7, contains

the usual official data with regard to the crop production and value for the present year. In this report, Secretary Wilson declares that for the first time in many years the total value of all farm products has declined from that of the preceding year. The estimate for 1911, based on the census items, shows an aggregate value of all farm products of \$3,417,000,000 which is \$277,000,000 under the estimated total value of all farm products for 1910. This loss in aggregate value is due to the lesser value of animal products. The total value of farm crops alone is estimated at \$5,504,000,000, a gain of \$44,000,000 over the valuation of similar crops for 1910. Farm prices of all crops except cotton, cottonseed and flaxseed are shown to be higher than in 1910, to which condition is due the fact that something like ten of the staple crops of 1911 are of greater aggregate value than any previous season's crops of the same kind which this country has ever produced.

On the other hand, the farm value of animals and animal products has decreased to an extent which is indicated in the shrinkage in value of all farm products in the present year. The report states that dairy cows are the only farm animals in which an increase of price is indicated. Other live stock, together with the live stock products of wool and butter as well as poultry and eggs, have averaged lower in farm price during the present year than during the preceding year. On account of this general decline in value, this group of products is estimated as having produced a value of \$2,913,000,000 in 1911 or \$321,000,000 less than the value of the same group of products in 1910. The yield in value of the principal staple crops in which our readers are interested is indicated as follows:

The estimated yield of corn which is pre-eminently the leading crop of the country, is 2,776,000,000 bu., a production that has been exceeded in only two previous years. The farm price of corn is higher at present than at any similar time since the records of the department began in 1866, with the exception of the single year of 1883, to which is due the record breaking value of this year's crop which is estimated at \$1,700,000,000.

Cotton, which is the second crop in order of total value, while not ordinarily a matter of great interest to our readers, is worthy of special mention at this time, as it is pointed out in this report as a notable example of the fact that a large crop may be worth less to its producers than a small one. While this season's cotton crop is estimated to be the largest ever grown, the lint has reached a price which is five cents per pound below that of last year when the crop was much smaller, and the price of the seed has also declined for the same reason. Due to this drop in price, the value of the fibre and seed of this year's crop is estimated at \$775,000,000, which is below the value of the two former years, although above the average of the preceding five years.

The hay crop, which is third in order of value, is estimated at only 47,000,000 tons as compared with the five-year average of 63,500,000 tons, but the value of the crop is estimated at \$700,000,000.

Wheat is fourth in order, with an estimated total production of 656,000,000 bushels, and an aggregate value of \$600,000,000.

The oat crop is estimated at \$74,000,000 bushels, which is considerably below the average. The total value is estimated at \$380,000,000, or five per cent more than the five-year average.

The potato crop of 282,000,000 bushels is only 90 per cent of the average production, but owing to the high price the value of the crop is estimated at \$213,000,000, which is a high record for this crop.

The barley crop of 146,000,000 bushels is 12 per cent below the five-year average, but its total value of \$125,000,000 is a new high record.

The rye crop of 31,000,000 bushels is far below the average, but its value of \$26,-

000,000 is 12.2 per cent above the five-year average.

The sugar beet crop, which for several years remained close to \$20,000,000 in value, has this year risen to more than \$24,000,000, an increase of 23½ per cent over the five-year average.

The buckwheat crop has been exceeded in production by only two crops since the '60's and its value has been greater in no year since that date.

PLANNING THE INSTITUTE.

I note in an editorial in a recent Michigan Farmer the plan followed by the Institute association of Hillsdale county to organize the townships, lay out the work to meet the needs of each locality, and carry it out with some system. The reader might be led to think that this was the first instance in which the vice-presidents of the townships were called together for a conference to map out the institute work of the year. I do not know whether this is done in many counties, but it is almost the identical plan followed in Calhoun county two years ago. At the suggestion of the county president the secretary sent out notices calling a meeting of all vice-presidents at the county seat at ten o'clock on a certain day. These notices stated the object of the meeting in full and emphasized the importance of the presence of all vice-presidents. This call was made early in the spring before the busy season opened up. In response all but two or three of the twenty vice-presidents were on hand at the court house. After a short forenoon session the meeting adjourned for dinner after which a long session was held in the afternoon. The secretary had previously ascertained how many institutes would be allowed the county, and at the close of this meeting these were all located, the desired speakers requested, local parties appointed to look after the local programs, the dates desired set so the superintendent could come as near to them as possible, a committee appointed to solicit advertising for a program book for the entire county, committees to arrange for the program of the county institute, and for the exhibits to be held in connection with it; in fact, the institute work of the following winter was planned as definitely as it could be at this time. It included two weeks of institutes and a two-day round-up, with exhibits in connection. The plans were carried out in full with one exception, one township failing to arrange for the institute as planned.

By this method the entire county was covered so that any person in the county could reach an institute without an exceedingly long drive. It also gave the secretary something to work upon. The program committee secured advertising enough in a few days to pay for the printing, the expenses of the committee and their time, and leave a little balance for the society. The exhibit committee secured a good list of premiums and exhibits for the round-up. The society succeeded in making up a deficiency from the previous year from memberships, and getting a fair balance in the treasury. All in all, this was one of the most successful institute years for the county, and I believe much of this success was due to this early meeting of the vice-presidents at which the work was thoroughly planned, and each one impressed with the importance of carrying it out.

That this plan is a good one is certain, providing the vice-presidents can be induced to turn out and take an interest in the work. It has been tried since in the county but the time came when farmers were too busy to turn out, and a poor attendance was secured. If the vice-presidents can be gotten together, the programs can be planned so that each locality will have the kind of topics they desire, and the local talent can better be drawn out, as was stated in the editorial, but I dare say that the counties that try this plan may experience some difficulty in getting a good representation of township men to the meeting. The way to get a good delegation is to begin a year ahead and put in a nominating committee at the round-up institute that are well acquainted about the county, and know of someone in each township that will carry an institute through successfully, and will be present at meetings when necessary. The nominations of the committee will generally be endorsed by the society. Then get a president and a secretary who are hustlers, and will not allow the local managers to become lax, and the institutes or any meetings held in preparation therefor will be successful.

Calhoun Co. S. B. HARTMAN.

HAPPENINGS OF THE WEEK.

National.

The second session of the 62nd congress was opened at Washington last Monday at 12 o'clock noon. Both houses had a quorum present and informed President Taft that they were ready to begin work. It is predicted by many that the present session will be an unusually long one in spite of the fact that next year is presidential election year and that many of the members will be concerned with re-election campaigns. Martin W. Littleton, congressman from Brooklyn, made the only speech of importance on opening day, which was a defense of himself against the attacks of the American Anti-Trust League who charged, Mr. Littleton with collusion and conspiracy with the U. S. Steel Corporation.

The estimate of the treasury department for running the government during the next fiscal year aggregates \$745,834,563 which is \$21,283,921.43 less than the appropriation for the fiscal year of 1911-12. The chief economy is made in the department of public works. Decreases are also shown in the pension fund, the conduct of the executive department and the department of agriculture. The decreases are practically offset, however, by increased estimates in the military and naval departments, \$4,000,000 more is being asked for work on the Panama canal.

Chicago packers, who have been charged with criminally violating the Sherman Anti-Trust Law have appealed to the U. S. Supreme Court for a stay of their trial in the district courts of Chicago. The counsel for the defense asks this privilege until the constitutionality of the Sherman Anti-Trust law is passed upon.

Jas. B. McNamara, who was charged with murder in connection with the blowing up of the Los Angeles Times Building on October 1, 1910, withdrew his plea of "not guilty" and confessed to being the party who committed the act, and John J., his brother, pleaded guilty to dynamiting the Llewellyn Iron Works in the same place. The news of these confessions was a great surprise to the country at large, as the trial which had already started, was being watched by the public generally, with seemingly equal chances for the men being acquitted. Sentences are to be pronounced on Tuesday of this week. The evidence against the brothers was secured largely through the efforts of Wm. J. Burns, detective, and the confession of Ortie E. McManigal who turned state's evidence by confessing to a part in many crimes committed under the direction of the McNamara brothers. Federal and state authorities are continuing a probe into circumstances connected with the case thus far developed, with the belief that further practices that militate against law and justice may be given a severe blow through the prosecution of other parties who have been instrumental in intimidating concerns following the open shop system. Labor unions appear to be chagrined at the revelations made and are insistent that the guilty parties be given the limit of punishment by the law. A large purse had been subscribed and raised by the unions for defending the case in the courts. The confessions leave most of this money unused and it appears to be the sentiment of many unions over the country that it should be distributed among the relatives of the unfortunate victims who were killed in the destruction of the Times Building.

The spreading of rails on the Illinois Central Railroad between Memphis and Louisville, derailed nine coaches and resulted in the death of four persons and injury to a score or more others.

A boiler explosion on the steamer Diamond occurred near Davis Island dam in the Ohio river. Five men are reported killed and two others badly injured thereby.

A conference among the representatives of the labor interests will be held in Washington this month for the purpose of considering measures touching upon the labor situation of the country.

John D. Rockefeller, who resigned as president of the Standard Oil Company, of which he was the founder, has been succeeded by John D. Archbold. Mr. Rockefeller also resigned as director. The board of directors was reduced from 14 to nine.

The Iowa State College won the blue ribbon for Shorthorn cattle at the International Stock Show, besides taking three special first prizes for exhibits of the same breed. She also took a first prize in the Aberdeen Angus class, while Nebraska took two firsts in this division. Kansas and Missouri Universities each took a first prize in the cross-bred class.

A collision between two freight trains near Kent, Ohio, resulted in the death of two members of the crews.

The delivery equipment of the United States Express Co., of New York city, consisting of 400 horses and other equipment, was destroyed by fire last Monday morning, causing a loss estimated at \$1,000,000.

Many stockmen and farmers in Illinois are facing heavy losses on account of the large amounts of corn that have rotted in the fields, due to excessive rains, and this tends to check stock feeding, a good deal. Some of these farmers say they will use the decayed corn for fuel this winter months. Recent reports say the amount of corn left in the fields is the largest in the history of Illinois.

Wolves in Michigan are live stock, since their pelts are valuable, and these cold days some of the farmers are putting in their spare time in killing off the pests that are in the habit of destroying their chickens and inflicting other injuries. The pelts are worth about \$25, and lots of wolves are slain in upper Michigan annually, but the live ones are still un-

pleasantly numerous. Expert trappers are doing good work, and Thomas Boyd, a farmer of Schoolcraft county, has been busy of late in killing a pack of wolves of that region, having shot or trapped at least accounts, five wolves, collecting the usual bounty that amounted for the five to \$125, besides having the pelts to sell. All the quintet were full grown and fine specimens of their species.

The Illinois Central railroad have completed plans for the construction of a \$5,000,000 depot in the city of Chicago.

It is evident that the sugar beet crop in Michigan this year will bring to the farmers of the state about \$6,000,000.

Since the installation of new equipment, the wireless station at Newport, R. I., has been in daily conversation with the operator at Colon, Panama, 2,000 miles away.

Foreign.

It is reported that the Chinese rebels have captured Nankin and that the situation in China appears more favorable to the republicans than heretofore. Mongolia has now revolted against the rule of the Manchus and the Chinese officials have been dismissed. Because of their former grip upon the political situation, the rebels are enabled to protect traffic against pirates on the rivers and canals in the districts occupied by them.

Russia is prosecuting her campaign against Persia with vigor, her advanced guard being reported in Teheran. The government at St. Petersburg has demanded the resignation of the acting treasurer of Persia, who is an American.

It is definitely reported that a policy of entrenchment will be followed in Japan by the government. To accomplish this, the military and naval expansion programs will be rejected. The matter of the world's exposition and the widening of the gauge of railroads will also be affected.

To encourage the home industries of Canada, an order has been issued rejecting swords that are not made in England although ostensibly manufactured there. Where England cannot furnish these swords from her home manufacturers Canada will provide them herself according to the order referred to.

It is ascertained that internal affairs are causing much dissatisfaction with the present government of England and it is believed that another election will be necessary to satisfy the government of the nation's support of policies now being agitated. It is not likely that such an election will be held in the immediate future, however.

In spite of her troubles in northern Africa, Turkey is sending a corps of troops to Persia to have a hand in the partition of that country should the present campaign by Russia disintegrate Persia's political structure.

It is declared in a booklet submitted to the U. S. Congress that the state department here encouraged the recent revolution in Honduras as a means of forcing that government to sign an agreement to loan money from large American interests.

Baron S. Chinda has been named by the Japanese government as the new diplomat of that government to the United States. He is now Ambassador to Germany.

CROP AND MARKET NOTES.

Eaton Co., Dec. 2.—Bare ground, now and then a snow flurry. Weather mild, good for fixing up for winter, and for husking, only the ground is rather soft in the fields. A good deal of corn remains to be husked. Prices of farm produce remain about as last month except on potatoes and eggs. For potatoes the consumer who is short, has to pay nearly a dollar now, prices to farmers 75c. Eggs have advanced to 34c for large, clean, strictly fresh; 30c for general run of stock. Wheat, 88c; oats, 44c; rye, 88c; corn, 68c; butter, 25c; hogs, \$5.75; calves \$5@7; clover seed, \$10@11.

Southeast St. Clair Co., Nov. 27.—At the date of this writing farmers are making good use of the few pleasant days available. Harvesting the beet crop has been pushed whenever such operations have been possible. This work has not been a pleasant task with snow, frost and a saturated soil to contend with. Even where the crop has been gathered in piles, hauling is a laborious undertaking. Scarcity of help and bad weather will make large inroads on the profits this season. Quite a large acreage of beans yet unharvested.

Emmett Co., Nov. 28.—Since the first of October showers have been frequent and oftentimes copious. The conditions thus caused interfered with the gathering of the potato, corn and other fall crops. The first fall of snow came the last week in October. This melted. Following the heaviest rainfall ever known in this section snow began falling Nov. 12, since which time there has been fairly good sleighing. This unusually early fall of snow caught farmers generally unprepared. Some potatoes are yet undug. The potato market has been brisk, a large quantity being marketed at 50c and upward.

Ogemaw Co., Nov. 25.—The weather has been very wintry here for the past three weeks, so much so that farm work has consisted mostly in chores. Not all the fall plowing that was planned has been done but everything else was pretty well finished up. Quite a lot of hay is being marketed at \$15@16.50. Potatoes also are moving quite rapidly with buyers willing to pay 65@70c. Fresh eggs are scarce at 25c; butter, 23@25c; cream around 30c. The high price of feed has caused large shipments of stock from this county with prices on the decline. Corn not all husked and showing a better yield than expected.

Mecosta Co., Nov. 22.—Weather has been the coldest for the time of year

for many years. Some potatoes froze in pits. They have been as high as 80c per bushel. Opinions differ in regard to the future outlook; some think they won't stop at \$1, while others think they will be cheaper in the spring than now. Corn is nearly all husked. Feed is quite high, hay up to \$20 per ton, baled. Fodder as high as 4c per bundle. Hardly any corn or oats for sale now, as those who have corn or oats to sell are holding for better prices. Beans are worth \$2.05 per bu; butter-fat, 30c per lb; chickens, 7c; hogs, 5@5½c.

Northern Isabella and Southern Clare Co.'s, Nov. 22.—Good winter weather, with light flurries of snow on the ground. Good wheeling on the roads, but poor in the fields, on account of so much rain. Drawing beets the order of the day where they raise them. I have heard old beet raisers say that it cost a dollar a ton more this fall to harvest and draw the beets than in former years and the beet sugar men are getting higher prices than at any time since the factories started. Quite a good many acres of beets not pulled yet, and lots of corn in the field not husked. Fall wheat looks poor. Lots of sheep, cattle and hogs being sold in poor condition, owing to the high prices of hay and scarcity of corn.

S. miac Co., Nov. 18.—The present date finds Sanilac county frozen up as it has been for a week, with 25 per cent of the bean crop still standing in the field. One could hardly imagine them to be of any value, considering the rains, freezing and snow that they have withstood. Those that are threshed have turned out well, from 18 to 30 bu. per acre. The almost continuous rains since the last week in September account for the farmers being so behind with their fall work. Potatoes were muddled out, washed off and let dry then put in the cellar, as very few had any to spare. All grains are high on the market, hay also, but stalks are in poor demand. Auction sales plentiful. Considerable land changing hands. Market prices are, wheat, 89c; oats, 46c; barley, \$2.20 per cwt.; beans, \$2.10 per bu; hay, \$12@16 per ton; lambs, \$4; hogs, \$4.25 per cwt.; creamery butter, 30c lb.

Ohio. Montgomery Co., Nov. 29.—The weather has been most unfavorable for farm work this fall. Fully half of the corn is in the field as yet and in poor condition, as a good lot of it is mouldy. Prospects are that feed of all kinds will be scarce and high this winter. Stock is plentiful and selling cheaper than last winter, especially cattle. Cattle, 4@5c; hogs, 5½c; wheat, 88c; oats, 43c; potatoes, 75c; chickens, 8c; turkeys, 13c; butter, 25c; eggs, 26c.

THE WORLD'S GRAIN CROP.

The United States Department of Agriculture has received the following cablegram, dated November 18, 1911, from the International Institute of Agriculture, Rome, Italy, regarding areas and production, this year, of the crops specified in the principal producing countries of the Northern Hemisphere, and in the countries named, and the conditions attending the sowing and germination of winter cereal crops in the Northern Hemisphere:

All Wheat:—Single numerical statement of production 100.2 per cent of last year's production, indicating a total production of 1,637,000,000 cwt., or 3,055,733,000 bushels of 60 lbs.

All Rye:—93.0 per cent of last year's production, indicating a total production of 662,000,000 cwt., or 1,324,000,000 bushels of 56 lbs.

Barley:—99.4 per cent of last year's production, indicating a total production of 518,000,000 cwt., or 1,208,667,000 bushels of 48 lbs.

Oats:—90.8 per cent of last year's production, indicating a total production of 967,000,000 cwt., or 3,384,500,000 bushels of 32 lbs.

Corn:—The estimated production in Hungary is 69,032,000 cwt., or 138,064,000 bushels of 56 lbs.

All Wheat:—The estimated area sown in Argentina is 17,043,000 acres; in Chili, 1,853,000 acres, and in Australia, 7,905,000 acres.

Oats:—The estimated area sown in Argentina is 2,547,000 acres; and in Australia, 689,000 acres.

Winter Cereal Crops:—The sowing is approaching completion; the work preparatory to sowing, and the sowing, was accomplished under good conditions, and germination is regular.

MICHIGAN FARMERS' INSTITUTES.

In addition to the list published last week the following one-day institutes will be held in Michigan during the month of December:

Cheboygan Co., Indian River, Dec. 12; Cheboygan, Dec. 13; Aloha, Dec. 14. Kalkaska Co., Rapid City, Dec. 11; Excelsior, Dec. 12; Springfield, Dec. 14. Mecosta Co., Morley, Dec. 11; Stanwood, Dec. 12; Rodney, Dec. 13; Barryton, Dec. 14; Remus, Dec. 15. Oscoda Co., Comins, Dec. 9; Fairview, Dec. 11; Red Oak, Dec. 12; Mio, Dec. 13.

Virginia Corn Grower Wins Champion

In the contest for the \$1,000 silver cup, offered by the International Harvester Co., for the best 30 ears of corn grown in the United States, Wm. H. Dorin, of Halifax county, Va., whose farm is located near the Southern Railway, was awarded the trophy, the judge declaring them to be the finest among hundreds of specimens entered for the prize. This corn was grown upon a field which averaged 137 bushels per acre this year in spite of a bad drouth during midsummer. A year ago the same land produced 136 bushels to the acre.

PRACTICAL SCIENCE.

LIVING MATTER IN THE SOIL.

BY FLOYD W. ROBISON.

As noted in one of our previous discussions, soil fertility is very materially affected by living matter in the soil. As late as 1880 to 1887, the possibility of there being any condition in nature by which the nitrogen which was so prevalent in the atmosphere could be utilized by plants to any extent, was unknown. When it was known that nitrogen played such an important part in the growth, not only of plants but in the physiological processes of animals as well, the possibility of nitrogen starvation for both plant and animal life became a not far removed reality, and as before stated, agriculturists and economists were growing almost hysterical over the fact that the soil was gradually being dispossessed of the nitrogen which it contained. An effort was made to prevent the waste by burning or destructive leaching of any animal or vegetable body containing nitrogen and in many sections of the world the cremation of animal bodies at death was severely decried because of this seeming loss of nitrogen to the vegetable world. It was known that practically every movement of the muscles of the animal body called for an enormous supply of nitrogen in some or other form and the tremendous importance of this element to life became very apparent. Through no system of cultivation did it seem that nitrogen was being accumulated in the soil. Much energy and thought was directed toward the converting of the nitrogen in the air into a salt of nitrogen whereby it could be made available to the growing plant. Practically the first relief from this unpleasant condition came with the discovery and proclamation by Helrigal in 1888, of the fixing power of certain bacteria which inhabited certain soils. He had observed that under certain favorable conditions of growth, plants such as clover, peas, beans, vetches, alfalfa and the like, that is, plants belonging to the leguminosae family, seemed to have growing upon their roots little nodules which, when present seemed to materially affect in a favorable way the growth of the plant. On these clover plants on which these nodules were abundant, the plants seemed to thrive, were healthy and grew to enormous proportions. On those plants on which no nodules were fixed, a much less vigorous growth took place and a less abundant crop resulted therefrom. It was thought by many that these little nodules were really either parasitic in nature or a result of disease, but Helrigal discovered that through this mutual relation between the little nodule plants and the clover rootlet, the clover plant was enabled to build up an enormous nitrogen superstructure which the plant which did not have nodules could not build. We know of numerous instances of this symbiotic condition existing between certain plants. By symbiosis we mean the living together of two or more plants for mutual benefit. The nodule on the root of the clover plant secured from the clover rootlet what it needed to perfect its growth. The clover plant derived through the medium of this nodule—this microbe plant, as Helrigal termed it—a good supply of nitrogen for its utilization.

During the writer's connection with the Michigan Experiment Station, a series of experiments were performed to ascertain just what the influence of this microbe plant was upon the growth of certain plants, such as cowpeas, soy beans, etc. Accordingly certain sterile experimental plots were selected for the purpose of studying this question. The finished crop was weighed and analyzed. In the case of both the cowpeas and soy beans not only was there a very much larger growth when the nodule was present upon the rootlet but also the percentage of protein carried by the plant on which the nodules were located was very much higher than with the one which contained no nodules. There was no exception to this observation through experimentation and it was very apparent from the results of these experiments that the full purpose of the nodule, or Helrigal's microbe plant, was to furnish to vegetation a supply of nitrogen which was gained through its power of extracting in some way or other from the air the nitrogen which was necessary to the building of the organic structure of the plant.

It is well known that clover, alfalfa and

frequently beans and peas do not thrive well on certain soils. The principal reason for this is either that these soils are not well equipped with an abundant supply of nitrogen fixing bacteria, that is, these little microbe plants, or else the condition of drainage, cultivation, etc., is not such as will encourage a healthy growth of these little plants. The conditions under which the microbe plant thrives are the same conditions which are frequently recognized as causing a healthful condition of nitrification in the soil. A soil which is well drained and well aerated because of perfect drainage and thorough cultivation, is a soil ideal for the home of the nitrogen fixing bacteria. In one of our previous discussions we stated that a soil which was not well drained, which was wet and soggy and on which water stood for a considerable period of time, was a soil in which much material of a fertilizing nature was being wasted. We would emphasize, then, that on such a soil crops which depend for their fullest development upon the activity of these little microbe plants, or these nitrogen fixing bacteria, will not thrive because such a soil is practically devoid of nitrogen in available form. Not only is this soil lacking in available nitrogen because the nitrogen fixing bacteria cannot grow in such a soil, but because a process of denitrification is going on all the time and the nitrogen which, through the sources of fertilizers, and manures, or through the activity of the nitrogen fixing bacteria, that became started in this soil is, through this process of denitrification, being again liberated to the atmosphere in its most inert form, that is, free-nitrogen. As illustrating perhaps more clearly the tremendous influence of nitrogen-fixing bacteria on the growth of plants of the clover type, Helrigal performed a very unique experiment, using for his soil an absolutely inert, sterile sand. This sand was pure silica and in itself contained no, or practically no, fertilizing constituents. To this soil was added the various mineral ingredients necessary to the plant in administering to its growth. To one set of these, in addition, he added an extract made by treating nodules found on the roots of similar plants and poured this extract on the sand soil. He obtained the following results which we think will be ample to illustrate the enormous value of these nitrogen-fixing bacteria. In lot No. 1, the dry matter of the pots containing the nitrogen-fixing bacteria was 48 times greater than those that did not contain the bacteria; lot No. 2 the dry matter was 57 times greater in the ones containing the bacteria than with those which did not contain the germs; No. 3 was 48 times greater and No. 4 was 41 times greater, in both instances in the case of the pots containing the nitrogen-fixing bacteria.

This question has been of such importance to the government that some of the various experiment stations have undertaken the cultivation of culture to be distributed among farmers for the purpose of inoculating their soils. The Agricultural Experiment Station at Guelph, Ont., has been one of the most active institutions in shipping this material constantly to the farmers throughout lower Ontario and some very favorable results have been obtained through this co-operative work.

It is well known by farmers that certain crops such as clover, beans, and especially alfalfa, will not thrive upon our soils until after several years of practical failure in the production of the crop. We are mindful of the fact that our experiment stations have at times been misled as to the adaptability of certain crops to Michigan soils. Because of this apparent year after year failure which follows the attempt to grow these crops, we are now beginning to appreciate that one of the most valuable forage crops to the farmer in Michigan is the crop of alfalfa. Yet we are thoroughly familiar with the fact that for years our local experiment station advised against the use of alfalfa, claiming that it was not adaptable to Michigan soils. The reason to our mind that alfalfa has not been a huge success is simply because it has not had a fair opportunity to become acclimated, we may say, to the soil of this state. We mean that its associates, that is, the nitrogen-fixing bacteria, which are peculiar to that particular legume, have not been actively introduced into our Michigan soil. On those soils in the state where alfalfa

is now doing well and exhibiting its superiority as a forage crop, we will undoubtedly find a very active and healthy flora of these nitrogen-fixing bacteria.

CITY MILK SUPPLY.

Clean Milk.

As stated in our previous short discussion on city milk supply, we desire to repeat that in the control of the food supply the greatest function of a food department at the present time should be in the regulation and control of the conditions of sanitation under which food products are produced, manufactured and dispensed.

The problem of regulating the conditions just described as they apply to milk is by no means a simple one. One great fault in this matter has been that frequently city health departments, state dairy and food departments and other sources of authority have sent incompetent men to the dairymen to teach them regarding the production and marketing of milk. These men in many cases were experts in name only and did not have any qualifications which fitted them for filling such a responsible position. It is not strange that the dairyman has been slow to be guided by men whom he can realize at a glance have not the slightest comprehension of the problem which they are facing. Does it seem reasonable to expect a dairyman to be influenced for good in the production of sanitary milk by the arguments of a man whose every appearance personally as well as whose whole language is entirely antagonistic to the cause which he represents? We have never found the dairyman slow to take advantage of suggestions offered him in the right spirit by a man whom he realizes at once is practicing the life he is preaching and who is competent to give him advice along these lines. Does it seem reasonable to expect a butter maker in a creamery to take kindly to the advice of a man whom he realizes at first glance knows far less about the business of butter manufacture than he does himself? Does it seem probable that a dairyman and stock feeder will give great weight to the opinions of a man who is incapable of distinguishing between a Jersey and a Holstein? The dairy business at the present time is not a business into which any man may step and, upon a few moments' devotion to a text book consideration of the question of milk, be prepared to make a success of it and likewise be then competent to advise those who have spent a lifetime in the work. I distinctly remember hearing an inspector at a prominent dairy meeting in which his audience was almost exclusively dairymen, telling those dairymen that his business did not consist in hunting for criminals but more particularly in teaching the dairymen how to produce clean milk. The thought passed my mind at the time that if I were to pick any man in that audience as a man who, by appearances personally, and by language as well, was qualified to act as instructor to the dairymen in the question of the production of milk, I would have picked every man in that room before I would have chosen the inspector. What think you must have been the worth of the suggestions carried away by that audience?

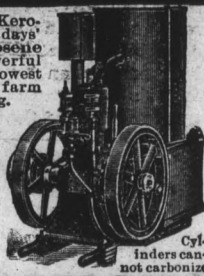
Many of the problems so far as they are connected with the city milk supply, have been approached by the officials in the cities in just such a way, without any comprehension whatever of the difficulties involved in the production of clean milk, and without any appreciation of the fact that it is desirable that something be done with that milk after it is removed from the premises of the producer. Let us not surmise that the favorable results which we seem to be attaining are the results of the eleventh hour, more or less spasmodic. For forty years experiment station men and farmers' institute lecturers have been preaching the doctrine of clean milk consistently and continuously and our improving conditions are the results of the work of these men, men who have appreciated the conditions under which the dairyman has been working and who have today his respect for their opinions because the dairyman has realized that they know whereof they speak. In other words, the present condition of the dairy industry is the result of productive educational work rather than destructive educational work, the result of the efforts of men who, while condemning in no uncertain terms the unsanitary methods practiced in the production of milk, yet at the same time have pointed out the way to the dairyman how he may produce clean milk.

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HOME AND YOUTH

OLIVER WENDELL HOLMES AND HIS TEACHERS.

BY RUBY BAUGHMAN.

Like Whittier, Oliver Wendell Holmes was trained in a home of the highest religious and educational ideals; unlike the Quaker poet, he had access to all the advantages which wealth, the city, and social prestige could give. Like Louisa May Alcott, Holmes fulfilled his own requirement that above all things, as a child, a man should have tumbled about in a library because all men are afraid of books that have not handled them from infancy; unlike the great storyteller, he had a training, broad, consecutive, and comprehensive. Like Franklin, Holmes possessed a voracious appetite for knowledge; unlike Franklin, he had ample leisure and opportunity to indulge and satisfy that craving unhindered by the problem of earning a living and learning a trade.

The Autocrat's school career began, not in a kindergarten, free or private, but in its equivalent in his generation, a dame school for small people, kept by Ma'am Prentiss, in Cambridge near his home. Of this preliminary experience he writes many years later: " * * * the school of Dame Prentiss, best remembered by infantine loves, those pretty preludes of more serious passions; by the great forfeit basket, filled with its miscellaneous wafers and deodands, and by the long willow stick by the aid of which the good old body, now stricken in years and unwieldy in person, could stimulate the sluggish faculties or check the mischievous sallies of the child most distant from her ample chair."

Holmes's schools and fellow students seem to remain longer in memory than his teachers, for about his next instructor, William Bigelow, a man of learning and ability as scholar and teacher, he says almost nothing. After his work with Bigelow, he spent five years at a school in Cambridgeport, about a mile from the college campus in Cambridge. Here he fell in with several successive teachers, not one of whom seems to have impressed Holmes as Joshua Coffin, for example, influenced Whittier. In "Cinders From the Ashes" Holmes has preserved these recollections:

"At about ten years of age I began going to what we always called the 'Port School,' because it was kept at Cambridgeport. This suburb was at that time thinly inhabited, and, being much of it marshy and imperfectly reclaimed, had a dreary look as compared with the thriving college settlement. We called the boys of that locality 'Port-chucks.' They called us 'Cambridge-chucks,' but we got along very well together in the main."

One of his own experiences with one of the aforesaid "Port-chucks" is found recorded by the Autocrat: "I was once equipped in a hat of Leghorn straw, having a brim of much wider dimensions than were usual, and sent to school. On my way I was met by a 'Port-chuck' and the following dialogue ensued:

"The Port-chuck: 'Hullo, you sir, joo know th' was goin' to be a race tomorrah?'"

"Myself: 'No. Who's goin' to run, n' wher' 's 't goin' to be?'"

"The Port-chuck: 'Squire Mico 'n' Doctor Williams, 'round the brim o' your hat.'"

"These two much-respected gentlemen being the oldest inhabitants at that time, and the alleged race-course being out of the question, the Port-chuck also winking and thrusting his tongue into his cheek, I perceived that I had been trifled with."

It is comforting to the student of nowadays to learn from his own confession that so great a celebrity as Holmes showed some very human failings in his school days. He writes in his notes: "I was moderately studious, and very fond of reading stories, which I sometimes did in school hours. I was fond also of whispering and my desk bore sad witness to my passion for whittling. For these misdemeanors I sometimes had a visitation from the ferule, and once when a Gunter's scale was used for this purpose, it flew to pieces as it came down on my palm."

It is quite conceivable that at this time Holmes's attention was directed elsewhere than toward his teachers; at any rate, he admits: "Among my classmates at the Port school was a young girl of

singular loveliness. I once before referred to her as 'the golden blonde,' but did not trust myself to describe her charms. The day of her appearance in the school was almost as much a revelation to us boys as the appearance of Miranda was to Caliban. Her abounding natural curls were so full of sunshine, her skin so delicately white, her smile and her voice were so all-subduing, that half our heads were turned."

There was, too, among the girls at this school, another, who impressed the incipient Autocrat with the inside of her head instead of the outside. Holmes's comment on the Margaret Fuller of that day is interesting: "Sitting on the girls' benches, conspicuous among the school girls of unlettered origin by that look which rarely fails to betray hereditary and congenital culture, was a young person very nearly of my own age. She came with the reputation of being 'smart'—clever, as we say nowadays. This was Margaret Fuller. Her air to her schoolmates was marked by a certain stateliness and distance, as if she had other thoughts than theirs and was not of them. She was a great student and a great reader of what she used to call 'naw-vels.' Margaret was tall, fair-complexioned, with a watery, aqua-marine lustre to her light eyes which she used to make small as one does who looks at the sunshine. I remember being greatly awed once with the maturity of one of her expressions. Some themes were brought home from school for examination by my father, among them one of hers. I took it up with a certain emulous interest and read the first words.

"It is a trite remark," she began.

"I stopped. Alas! I did not know what trite meant. How could I ever judge Margaret fairly after such a crushing discovery of her superiority? I doubt if I ever did."

The five years at Cambridgeport were followed by a year of college preparation at Phillips Academy at Andover. There again he was interested in students and events more than in his instructors. He has, unconsciously perhaps, given us his attitude toward the latter in his description of some of his professors—de-

lineations which lack entirely the fond, intimate flavor of the references of Whittier to his teachers. He writes: "Of the noted men of Andover the one whom I remember best is Professor Moses Stuart. I have seen few more striking figures in my life than his. Tall, lean, with strong, bold features, a keen, scholarly, accipitrine nose, thin expressive lips, great solemnity and impressiveness of voice and manner, he was my early model of a classic orator. His air was Roman, his neck long and bare like Cicero's, and his toga—that is his broadcloth cloak—was carried on his arm, whatever might have been the weather, with such a statute-like rigid grace that he might have been turned into marble as he stood and looked noble by the side of the antiques of the Vatican."

"Dr. Porter was an invalid, with the prophetic handkerchief bundling his throat, and his face festooned—as I heard Hillard say once, speaking of one of our college professors—in folds and wrinkles."

"Dr. Woods looked his creed more decidedly, perhaps, than any of the professors. He had the firm fibre of the theological athlete, and lived to be old without ever mellowing, I think, as old ministers of stern creed are said to do now and then."

Certain it is that Holmes's teachers seem to have touched his life but little. Perhaps this is due to the fact that while many persons may have aided in teaching him facts, his development and training really came from his minister-father. One glimpse of this man and his method is given by T. W. Higginson, a boyhood neighbor of the Holmes family. "I shall always remember a certain winter evening, when we boys were playing before the fire, how the old man—gray, gentle, and kindly as any old German professor, and never complaining of our loudest gambols—going to the frost-covered window, sketched with his pen-knife what seemed a cluster of brambles and a galaxy of glittering stars, and above that he wrote, *Per aspera ad astra*: 'Through difficulties to the stars.' He explained to use what it meant, and I have never forgotten that quiet winter evening and the sweet talk of that old man."

THE BACHELOR UNCLE

BY EVERITT McNEIL.

CHAPTER IV.

The "Beautiful Woman."

"Come, Teddy; come, Ellen," I called, as I arose from the supper table an hour later. "Now I am ready to hear all about that robber's cave. Come out on the porch, and tell me exactly what happened, and how it came about that I found you undressed and in bed," and I led the way to the back porch where a cool breeze was blowing. Teddy and Ellen followed eagerly. Each had started to tell me the story a dozen times while at the table, but I had refused to hear a word until after supper.

"It wasn't a really and truly robber's cave, Uncle John," Teddy began. "Only a big hole in the side of the hill, with lots of nasty spiders, and lizards, and bats in it—"

"And Teddy killed a snake with his sword that had a rattlebox on the end of its tail," Ellen broke in, always pleased to sing the praises of her brother. "And it rattled its box, and stuck out its tongue at me, and bit me on the dress; and then Teddy knocked it on the head with his sword and killed it. Teddy is awful brave—why Uncle John!"

With a smothered exclamation of horror I caught Ellen up into my arms, and assured myself positively that the deadly fangs had not touched her flesh. Then I held her close, thanking God over and over again for the kindly Providence that had shielded her from a hideous death; and for brave little Teddy.

"You must never go into that old cellar again, Teddy," I said. "That was a rattlesnake which you killed, and had it bitten you or Ellen you would have died a terrible death. I did not know that there was a rattler left alive in the country, or I should not have been so careless. Thank God for guarding my precious little girl!"

"Then Teddy saved my life!" Ellen exclaimed, growing just a little white and looking very solemn. "I want to kiss Teddy," and she caught him around the neck and drew his face up to hers and kissed him.

"Botheration! Girls are always wanting to kiss a fellow!" and Teddy jerked him-

self away from Ellen, though not roughly. "But, that's not all, Uncle John! We had a thrilling adventure, and rescued a lady from a watery grave, and—"

"And a beautiful woman, and a big man, as big as you, Uncle John, jumped out of a carriage and took the lady home, and we got all wet, and Mary Jane was scared, and made us undress and go to bed, and—"

"Oh, hold up, Ellen," I interrupted. "This is getting interesting, like a story, but I want more than the chapter headings. Now, Teddy, start at the beginning and tell me how it all happened."

"Well," Teddy began, "when we found that the cave wasn't really a robber's cave, but a nasty place where bats and lizards and big spiders lived, we thought we'd explore the river. So we started, and we came to where the rocks hung high over the water. And way up among the rocks we saw a woman, and the woman was reaching out to pick a flower, and her foot slipped or something, and she screamed and fell. Oh, it was awful to see her falling, Uncle John! She struck a rock and bounded off right into the water, and her head went under, and she tried to stand up and couldn't 'cause she was hurt terribly bad, and she gave a loud scream and her head fell back again under the water. Oh, Uncle John, she was hurt and drowning. And I shouted to her, and ran into the water to pull her out, and Ellen screamed and ran in after me. The water wasn't deep, only up to our shoulders, but the woman was heavy, and she acted wild, and nearly pulled us both under the water, but at last we got her out on the bank. Then she threw her arms around wild like, and moaned terribly, and her head got all red with blood, and her face was awful white, and—"

"Then a beautiful woman and a big man," Ellen interposed, anxious to tell a part of the story, "jumped out of a carriage, quick, and ran to where we were, and the beautiful woman said: 'Oh, the poor girl!' and knelt right down, and took the head all covered with blood right on her lap, and the hurt woman screamed, and tried to pull herself away, and

looked queer at the big man, whose face got all white, and his eyes looked wicked. Then the beautiful woman called: 'Hurry, some water, quick!' and the big man ran to the river, and filled his hat with water, and was just as good as he could be, but I don't like him, Uncle John, 'cause his eyes looked wicked. But I do love the beautiful woman, 'cause she was so good, and she kissed me, and called me a brave little girl; and she kissed Teddy, too, and said he was a hero, and wanted to know his name, and he told her, and said: 'Everybody calls me Teddy, 'cause I try to be brave like Teddy Roosevelt, and we are here visiting John Devlin, he's our uncle.' And then I thought Teddy had done something to make the beautiful woman angry, 'cause she got white and drew back, but it couldn't have been that, for the next moment she put her arms around Teddy and squeezed him real hard, and kissed him again, and told him that Teddy Roosevelt ought to be proud to have such a brave little fellow for his namesake. And her face got red when the big man looked at her, and she bent over the hurt woman, and the hurt woman looked queer at her and at Teddy and me, and said she wanted to be taken home. So the big man lifted her up in his arms, and carried her to the carriage, and drove her home; and she asked Teddy and me to come and see her, and her name is Belle Murdock. Oh, Uncle John, the beautiful woman was just lovely, and I think you ought to know her. She'd make a real comfortable wife," and the precious little matchmaker looked up into my face earnestly.

I did not reply, but bent and kissed the upturned face.

"And," continued Teddy, "the big man put his hand in his pocket and offered me a silver dollar. Why should he want to give me money for trying to save a woman's life? People don't do such things for money, do they, Uncle John?" And then, without waiting for a reply, he went on. "Anyhow I put my hands behind my back and said: 'No, sir,' and he put the money in his pocket, quick, and jumped into the carriage, and drove off with the beautiful woman holding the head of the hurt woman in her lap. The beautiful woman was great, and I'd fight for her, but I don't like the big man, Uncle John. When we got to the house we were all wet, and Mary Jane was frightened near to death, and wouldn't let us tell how it happened, but made us undress right off, and go to bed, and drink a lot of sage tea, just as if we were two babies. Mary Jane is getting old, isn't she, Uncle John? I think living in the country is interesting, don't you? It's so full of adventures. That's all. Come on, Bruno," and Teddy was off for a romp around the yard with the dog.

I did not feel like talking and sat silent with Ellen in my lap. The story of the children's adventure had interested me deeply and moved me greatly, for I knew that the "beautiful woman" was Elsie and that the "big man" was Harry Rodney. The accident that had befallen Belle Murdock also grieved me sorely, for the girl's help was sadly needed at the motherless home of shiftless "Red" Murdock; and, if her hurt should prove serious, what would become of Joey, her little crippled brother, who had been so tenderly cared for by her since her mother's death? In the morning I would call and see what could be done, for medical attendance and proper care for herself and Joey must be provided, and I well knew that her worthless father could not be depended upon to furnish these. But why had Elsie kissed Teddy again after she had found out who he was? Was it the thought of me that had prompted the caress? I longed to call Teddy and ask him to describe all the particulars of that kiss, and to have Ellen repeat the sweet story over and over again. And yet the kiss might not have been given for me at all. It might have been an atonement to the boy for her seeming rudeness in shrinking from him at the mentioning of his relationship to me. The knowledge that Elsie had shrank from Teddy because he was a nephew of mine was like a knife in my heart. What had I done? I could not let her marry Harry Rodney without first solving this accursed mystery—without justifying my dishonored love! And yet, what could I do that I had not already done? I—

Here Ellen started up in my arms and looked at me in surprise. "Why, Uncle John, have you got worms? I—I thought I heard you grinding your teeth, and you do look pale," she said, her face showing her sympathy and concern.

I smiled, for the incongruity of her remark touched me humorously even then.

"No, dear heart," I replied, "but Uncle is very, very tired. Come, it is already growing dark, and time for little folks to be in bed," and, calling Teddy, we went into the house.

I had need to be alone. The rebellion in my heart must be conquered.

After the children had been put to bed I went out where I could see the stars. There is power in the skies at night time to calm the passions. We can not look at the stars, and think of what they are—mighty suns and worlds rolling through the vastness of space—without feeling the immensity of the universe and the littleness of man, the measurelessness of eternity and the brevity of human life; and then how foolish it seems that the short life of that little being should be wasted in vain rebellion against the decrees of Him who holds all in the hollow of His hand. At any rate I felt as if I wanted to be alone that night, and where

I could see the stars shining above my head.

CHAPTER V.

Climbing Pike's Peak.

The next morning, when I awoke, the first rays of the sun were shining through my windows. Teddy's bed was empty, and I made haste to dress, for I was fearful of what that ambitious emulator of Teddy Roosevelt might be doing. Nor was I kept long in suspense, for the moment I stepped outdoors I heard Teddy shouting with great enthusiasm: "This is grand! Sublime! Wonderful! Magnificent!" and Ellen echoing: "Grand! Sublime! Wonderful! Magnificent!" I looked all around, but, to my astonishment, I could not see the children; and, then I heard Mary Jane scream, and I saw her standing in the doorway, her face as white as milk, and one hand pointing upward. My eyes followed the direction of

her pointing fingers, and I nearly dropped when I saw where Teddy and Ellen were.

I have an unusually large and high barn, with a tall cupola rising from the center of its roof, and a strong pole, with a weather vane at its top, extending upward from the middle of the cupola. And there, on top of the cupola, with one arm thrown around the weather-vane pole, stood Teddy, pointing with a rake handle, which he held in the other hand, toward the rising sun, and shouting enthusiastically to Ellen, who sat on the peak of the roof of the barn beneath him: "Beautiful! Wonderful! Grand! Magnificent!"

"What in the name of heaven are you doing on the top of that cupola!" I shouted, the moment I could catch my breath sufficiently to yell. "Come down at once! Don't you know that Ellen might fall and break her neck!"

"Why, Uncle John," Teddy called down,

"You must be blind! This is not a cupola. This is the top of Pike's Peak, and Ellen and I are viewing the sunrise; and she's tied to me so she can't fall. Oh, it is wonderful! Grand! Sublime! Magnificent! Oh-h-h!"

At that moment Teddy's foot slipped, and his hold broke on the pole, and he fell, sliding down the steep narrow roof of the cupola.

My heart stood still and every nerve seemed paralyzed with the horror of the sight of the falling boy, and I shut my eyes and listened, shudderingly, for the thud of the little body when it struck the ground. Then I heard a great shout from the hired man, and, looking up, my heart gave a bound of joy, for there, hanging in mid-air between the roof of the barn and the roof of the cupola was Teddy; while on the other side of the cupola in a like predicament, hung Ellen, kicking and screaming vigorously. Ted-



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Woman and Her Needs At Home and Elsewhere

A REALLY MERRY CHRISTMAS.

Once more the season of peace on earth good will to men, approaches and again throughout the land thousands, yes, probably millions of women are actually worried over the approach of the day which should mean nothing but joy and gladness.

Last year I was one of the millions, and the year before that and the years before that, for more than I intend to specify here. Every year on the twenty-sixth of December I have declared that next year I would reform, that I should give no presents, except to the really needy, and when I said it I meant it. But by the last of the next October the fever would start up. Everyone else was planning, and sewing and buying and talking Christmas, and I hadn't the strength of mind to withstand the temptation, for I really felt it to be a temptation. I knew, from past experience, that certain friends would remember me, and while I felt I should give my money to the really poor, I was ashamed not to give to those from whom I knew I should receive.

But this year I believe I really am going to stick to my last post-Christmas resolution. It is now the middle of December and my temperature has not gone up, though all around me the Christmas fever is burning. I haven't bought a present, nor made one, nor thought up one for the friends I have always remembered in the past. More than that, I've put all my ready money into presents for the downright poor, just so I will not be able to yield to temptation if it rears its head about the twentieth of the month.

The gifts I have prepared are not at all dainty nor artistic. Indeed, they are very ordinary and commonplace, but I'm sure they'll do good. There is a spray for the wash-woman who has bronchial trouble from the first snow-fall till April 30. For her two-year-old son there is a

pair of woolen drawer-leggings, as she tells me he is "bent and determined" to wade through all the snow he sees. For three fatherless boys in another city there will be a gift of money, and for the crippled children's hospital a bundle of outgrown clothing and a package of magazines and story-books.

This does not comprise the whole list but it gives you my idea of what Christmas should mean to us, a chance to help those who actually need it. With the exception of the hospital, I will not give to anyone who is likely to receive a great many gifts from others. I have not hunted out the very poorest, those who will get help from the poor commission, the Salvation Army, the churches and other organized charities, but the proud poor, who would starve and freeze rather than uncover their need to others. They are the ones who are really most in need of Christmas, of brotherly love and help.

And I am really counting on a Merry Christmas, the first one since I was a child. Heretofore I've worried beforehand over the sum of money I would have to spend to keep up with the rest and have suffered pricks of conscience because I did not do more for those who would be forgotten. Christmas day has usually been a period of gloom when I saw my own gifts and compared them with the ones I had sent out, and the day after, remorse has claimed me and I have vowed to do better next time. This year I am approaching the day with a mind serene and carefree. I know that no one who receives from me will give me something which will make my gift seem insignificant, and better still, I know I am giving where the gift will be an actual benefit. Therefore the day promises to be one of real rejoicing and good-will.

DEBORAH.

A GROUP OF CHRISTMAS GIFTS.

BY M. VIOLA WRIGHT.

Case for Teaspoons.

Material required, half yard of light blue or light pink flannellette, six cents, two yards ribbon, one inch wide, 12 cents.

Cut from the flannellette a piece of goods 18 inches by 18 inches, bind one end with the ribbon, turn this end up seven inches, stitch down this turned over piece to the other, leaving spaces large enough to slip in the spoons. There will be four inches of the material left for a flap. Cut this in three scallops, one in the center, and one at each side sloping towards the case. Bind all around the edge with the ribbon.

Tack a piece of the ribbon on back of case for tying when the case is rolled up. Similar cases can be made for knives, forks and tablespoons, by cutting in sizes to correspond to the different articles.

Cushion.

Material needed, three-quarters of a yard of art scrim, color Arabian, price 15 cents; three-quarters of a yard of mercerized sateen, color light blue; one bolt (ten yards), silk wash ribbon, basket weave design, three-eighths of an inch wide, price 30 cents.

Cut from the art scrim, a cover 21 by 21 inches, and from the mercerized sateen two pieces 21 by 21 inches, also a ruffle from each material four inches wide and four yards long, taking a hem three-eighths of an inch wide.

On the scrim square draw threads each way of the material, beginning one inch from edge. Draw threads for one inch, leave one inch of goods and draw threads another inch. Continue thus until the opposite side is reached each way of the goods. Draw threads in the scrim ruffle for one inch, near hem. Now take a bodkin, thread with the ribbon and run through where threads have been drawn, dividing the threads in the middle. Fold one-half over beyond the other half, and insert the ribbon in the hole in center thus formed. Leave two inches of rib-

bon at the end of each row, to fold over and tack to ruffle when sewed on. Thread ribbon through ruffle same as through cushion top, gather two ruffles together and sew cushion up.

Pin-cushion.

Material needed, quarter of a yard of silk any color, price 25 cents; quarter yard of wash net, square mesh with figure, price 15 cents; five yards wash ribbon, quarter of an inch wide, 15 cents.

Out of the silk make a cushion nine by four inches and stuff with hair or cotton. Make a slip the same size out of the net with a ruffle two inches wide and 52 inches long. Make an under ruffle of the silk the same size. Before gathering net ruffle stitch a row of the baby ribbon all around the edge, making two bows, on opposite corners. After the cushion is put together make bows of ribbon for each corner and cross one strand of the ribbon over top of cushion from opposite corners.

Needle Book.

Material needed, spool of crochet cotton any desired color, five cents; half a yard of ribbon to match, width about a half inch, two cents; one-eighth of a yard of white flannel, eight cents.

Cut three round pieces from the flannel two and one-half inches in diameter. Crochet around the edge of each with the crochet cotton, using a fine chochet hook which will easily pass through the flannel. Then crochet two covers for the book, of the crochet cotton, as follows:

Chain six join treble, that is, insert hook in center, after throwing thread over needle once. Draw thread through work, making three loops on hook, draw thread through two loops on hook, then again through the remaining two loops. Continue thus, widening enough to keep the circle flat, until you have a circle measuring two and one-half inches in diameter, then crochet an edge as follows:

Treble, skip three stitches, treble picot,

(that is, chain four, turn chain backward, insert hook in first stitch of chain and draw thread through this stitch, treble, p., insert in same hole as first, treble, p., inserting in same hole again, treble, skip two stitches, insert hook in third and draw thread through, skip two stitches, treble, insert hook, picot and continue as given for first scallop.

Tie the three leaves and covers together with the ribbon.

CHRISTMAS HINTS.

BY MRS. MAY PEINTNER.

It is nice to have an old-fashioned "taffy-pull" for the children on Christmas. Have it in the afternoon. A simple recipe for taffy which will not injure them is: One cupful of molasses, one cupful of sugar, one tablespoonful of butter, a pinch of salt.

I saw a home-made cup rack the other day which would make a nice present for the housewife. It was made from ordinary molding, the same that is used above baseboards. There were three strips each about 28 inches long. On the under flat side of each strip, on each end was screwed a piece of wood two inches long, three-quarters of an inch wide and three-quarters of an inch thick. Each of these pieces had two holes for screws bored in it. The grooved side of the molding is upper most and is used for saucers. The outer edge for cups, which hang on brass screw-eyes.

A nice cranberry jelly is made in a few minutes. Wash one quart of cranberries, add one pint of water, cover and boil for five minutes. Press through a sieve, return to the kettle, add one pound of sugar, stir until the sugar is dissolved, boil for a moment and turn into a mould.

I save all my grape and peach baskets during the year to fill with dainties for Christmas. Some I line with pretty tissue paper and fill with oranges, nuts, candy, etc., and carry to the sick and invalids of the neighborhood. Others are filled with glasses of jelly, cookies or pies for elderly people who are unfortunate in some way. Such gifts are always appreciated.

Apples stuffed with Christmas mince meat make a nice dish for the dinner table. Remove the cores from the apples, fill the centers with a rich mince-meat, add a little water and bake until they are tender. Serve hot with whipped cream.

I received a table for a winter garden last Christmas which pleased me very much. It was a plain table made of pine, stained, about four feet long and three feet wide. The top drops in about six inches and is lined with zinc, with a small waste pipe in one corner. It is on castors so that it may be readily moved from one window to another. By having my flowers and plants placed on it the house is made very attractive.

FASHION'S FANCIES.

Lovers of Irish lace will be glad to know that a great deal of it is being used this fall, and those who can make it as well as admire it may consider themselves lucky. For this lace is the "making" of many an otherwise plain afternoon dress. The really popular afternoon dress has wide revers, like the season's coats, only, of course, not so large and if you want your dress to be really up-to-date the right rever must be covered with coarse lace, Irish point if you can afford to buy it or know how to make it. A "V," or pointed yoke, and collar of the lace is, of course, very desirable, though you can cut the bottom off one of your old high-neck lingerie waists and wear the yoke thus formed and the sleeves under your cloth gown, for, of course, the dress sleeves will be only elbow length.

Collar and cuff sets of coarse lace are much worn, with the winter coats. There are also frills of tri-angular shape to be pinned to the waist at the neck and belt and worn falling over the left rever of the coat. The big point of the frill is pinned with a fancy pin to the coat rever.

Navy blue touched with green is a popular combination. Navy serge dresses

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pipied with green are seen everywhere and the green touches up many gowns of blue silk. Do not use green with black, however. It makes the black look even deadier, and is besides a cheap looking combination. Blue goes better with black.

Tassels and fringes are being forced upon us, whether we will or no. A dangling tassel from the bottom of your dress revers is considered quite smart, but as everyone seems possessed with a mad desire to pull the ornament off, it is a question if they will be popular for very long.

Beware the garment of an unusual color unless you can afford a very large wardrobe. For instance, if you can only have one coat do not get a striking color, like old rose or purple or vivid green. Choose a neutral tone, black, dark blue, brown or gray. Just why a woman would choose an old rose cloth coat is a mystery, but a girl boarded the car in a drizzly, wet snow storm the other day wearing just such a coat. Of course, everyone stared and commented. Had she bought a coat of a sensible color she would have had the satisfaction of knowing that she was never conspicuous and that she would get better value, for a quiet shade looks well longer than the unusual colors.

PARTY CONTESTS.

BY GENEVA M. SEWELL.

It is a very good plan for any one, even though she does not entertain very often, to keep on hand some lists of guessing games, all made out so they may be brought out at a moment's notice. It does not take very long to prepare one or two dozen contest booklets, or cards, and then they may be laid away until needed. For the following contest prepare cards with the words, "Be Brilliant" put on in fancy letters at the top, then follows the questions. Each card should have a small engagement pencil attached to it when it is made. These questions will do for almost any occasion.

A bee which is near the water? (Beach).
A bee which is seen afar? (Beacon).
A bee which is an ornament? (Bead).
A bee which is a bow-wow? (Beagle).
A bee which is useful to birds? (Beak).
A bee good to eat? (Bean).
A bee which is put in barns? (Beam).
A bee which is often wild? (Beast).
A bee which is cruel? (Beat).
A bee which is a useful little animal? (Beaver).
A bee which is an excuse? (Because).
A bee which appeals to women? (Be-deck).
A bee which anticipates? (Before).
A bee which makes a start? (Begin).
A bee which is a dismissal? (Begone).
A bee which gives unwillingly? (Be-grudge).
A bee which children should adopt? (Behave).
A bee which lags? (Behind).
A bee which shows faith? (Belief).
A bee which is near one? (Beside).
A bee which is a traitor? (Betray).
A bee which is engaged? (Betroth).
A bee that is in advance? (Beyond).
A bee that gives warning? (Beware).
A bee which offers kindness? (Be-friend).

For another contest write the questions on small trowels made from green cardboard, using red ink for the writing. These questions are especially suitable for a "Harvest Home" party.

We are a practical family, neither sad nor sentimental, yet people weep when we are near? (Onion).

If any one in our family fails to have a good hard head he is discarded? (Cabbage).

We love to travel, and for our journey wear a nice green uniform? (Cucumber).

For early spring we wear a pretty pink frock, but for winter use we find brown more serviceable? (Potato).

Any class would do well to adopt our colors, purple and white? (Turnip).

Our leaves are crisp and our heart is tender? (Lettuce).

Behold in us a golden ball, sometimes large, sometimes small? (Pumpkin).

We are good to eat, when our rough green dress and silken plume is removed? (Corn).

We are a large family in a small green house? (Peas).

We blush for our name? (Beet).

Our heads must be snow white before we are noticed? (Cauliflower).

Some of our family are red and some are yellow? (Tomatoes).

We grow thick in stalk but tender to eat? (Asparagus).

We grow better if you shade us? (Celery).

We live in Boston? (Beans).

Some of us are crooked all around, and some only have it in the neck? (Squash).

We are a hot tempered family and often our houses are bright red? (Pepper).

Another guessing contest for any season of the year might be called the "Storm Calendar," the words all tell of weather and are jumbled up as—Lage (gale).

Arin (Rain).

Wons (Snow).

Cocently (Cyclone).

Lizbardz (Blizzard).

Letse (Sleet).

Alhi (Hail).

Rodtoan (Tornado).

Ricarhune (Hurricane).

Niwd (Wind).

Trofs (Frost).

Another game that may be liked is made from the fruits of the season. It may be written on little booklets shaped like an apple or an orange.

The fruit our ancestors' ate? (Apple).

The fruit that makes us think of a great man? (Cherry).

The sound a sheep makes when bleating and two Scotch negatives? (Banna-na).

The sound a dog makes when startled, and what we are said to be descended from? (Gr-Ape).

What some people are always handing around? (A Lemon).

Two of a kind? (Pear).

The abbreviation for one of the months, yourself and a bed? (Apr-I-cot).

A file and what we do to the dead? (Rasp-bury).

1492? (Date).

What you do not care? (A Fig).

The latest news? (Currant).

An exclamation and a cook stove? (O-range).

RECIPES.

Editor Woman's Department:—I saw in November 4 issue, Mrs. L. L. G. would like some good cooky recipes and home-made candies. As I have a couple of recipes will send them.

Delicious Molasses Cookies.

One cup of brown sugar and two eggs beaten together, one cup of New Orleans molasses, (be sure it is New Orleans), one cup of melted lard, six tablespoons of warm water, one teaspoon soda in the molasses, beaten until very light, one teaspoon of soda in the water. One heaping teaspoon of ginger, one of salt, nutmeg to taste, four cups of sifted flour, stir up and leave over night in a cool place, keep as cool as possible while rolling out, as they are soft. When these are all right they are as soft and light as cakes.

Dried Apple Fruit Cake.

Two cups of sugar, half cup butter, two eggs, one cup sour milk, two teaspoons cinnamon, half teaspoon cloves, two teaspoons soda, one teaspoon baking powder, one pint dried apples, one cup molasses, one cup currants, one cup raisins, half pound citron, four and one-half cups flour. Put dried apples to soak over night. Add cup molasses and cook a few minutes, cool and add to other ingredients.—Mrs. F. S. L.

Scotch Chocolate Cake.

One cup of sugar, one egg, one tablespoonful butter, one-half cup sour milk, one-fourth cup boiling water in which melt two squares of chocolate, one large cup of flour, one teaspoonful soda. Stir chocolate and water in last. Bake in two tins and put together with white frosting.—V. W.

When making fried cakes have a basin of boiling water on the stove and as fast as the cakes are taken from the fat, dip instantly in and out of the water. This makes them deliciously tender and much less greasy. The fat may be removed from the water when cold.—M. W.

Stewed Liver.

One pound of calf's liver, one pint of water, one tablespoonful of flour, one small onion, salt and pepper. Cut the liver in slices and the slices into two-inch squares. Put two tablespoons of drippings into a pan, add to it the flour and stir until brown. Now add the water and stir until it boils. Pour this into a stew pan with the liver and onion, cover and simmer gently for an hour. Season with salt and pepper to taste and serve at once.—R. R.

Cook one-half cup of well washed rice in a pint of milk until tender. Add a tablespoonful of butter, half a teaspoonful of salt, two teaspoonfuls of curry powder, and one beaten egg. Drop by

large spoonfuls into a deep kettle of smoking hot fat. When a light brown, drain and serve with meat in place of potatoes.

SHORT CUTS TO HOUSEKEEPING.

A widow of my acquaintance makes a neat sum every year raising horseradish for her Christmas money. She has one acre of ground. Here she raises horseradish for the market. The planting is done in June and in November she begins harvesting the crop. She interviews all the tradesmen and hotel keepers likely to handle it. She gets a fresh supply for them every week. From her one acre she usually clears a hundred dollars.—M. A. P.

The caustic discharge from a cold renders the nose very sore, and a small child has no way of making it known except by crying. Keep the nose as soft and clean as possible by frequent sponging with warm water. Always use a soft, silk or linen handkerchief with which to wipe it. Dip a soft camel's hair brush in pure olive oil and run it up the nostrile. It both softens the hard mucus and helps to clear the passages by sneezing. Wipe out the mouth and give frequent drinks of water. Sometimes the passages are so obstinate, that there is difficulty in nursing or feeding from the bottle, then feed him from a spoon. Remember, that in any cold the relaxing of the bowels is always the first step toward a cure.—Mrs. J. D.

A tablespoonful of lime water to a loaf of bread will bleach it the same as alum, with none of its injurious effects on the stomach. It also has a tendency to prevent souring. Care must be taken not to use more or it will kill the yeast.—D. L. M.

It is often a tax on the ingenuity of the mother to amuse a sick child during the holiday. I have seen this plan successfully carried out: Crack large English walnuts and remove the kernels. Substitute for the meats small articles like a tiny doll, a piece of candy, a new penny, etc., then match the shells and glue together. The child may be allowed to crack a nut at different times during the day.—M. A. P.

MICHIGAN FARMER PATTERNS.

These patterns may be obtained from the Michigan Farmer office at the prices named. Be sure to give pattern number and the size wanted.



No. 5492—Girls' Long Box Coat. Cut in sizes 6, 8, 10 and 12 years. Age 8 requires 2½ yards of 50-inch material. Price, 10 cents.

No. 5481—Ladies' Waist with Rolling Collar. Cut in sizes 32 to 42 inches bust measure. Size 36 requires 1¼ yards of 27-inch material. Price, 10 cents.

No. 5446—Ladies' Dress with Gümpe and Five-Gore Skirt Having Inverted Box Plait or Habit Back. Cut in 6 sizes, 32 to 42 inches, bust measure. Size 36 requires for dress, 5¼ yards of 36-inch material, and for gümpe 1½ yards of the same width. Price, 10 cents.

No. 5355—Ladies' Waist Lining. Cut in 8 sizes, 32 to 46 inches bust measure. Size 36 requires 2¼ yards of 36-inch material. Price, 10 cents.

5366—Ladies' Nine-Gored Skirt. Cut in 6 sizes, 22 to 32 inches, waist measure. Size 34 requires 3¼ yards around lower edge, and requires 3¾ yards 44 inches wide. Price, 10 cents.



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GRANGE

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

THE COMING STATE GRANGE MEETING.

Michigan State Grange will hold its thirty-ninth annual meeting at Kalamazoo, Dec. 12-15. The various sessions will be held in the Academy of Music, the opening session convening there at 10:00 a. m. on Tuesday. The usual public reception will occur on Tuesday evening at the State Normal, where short addresses will be made by President Waldo, of the Normal, Mayor Farrell, of Kalamazoo, State Master Hull, and Hon. L. L. Wright, state superintendent of public instruction. Entertainment features of this meeting will be class exercises in physical training in the gymnasium and stereopticon pictures.

While the work of the various sessions is not definitely laid out until after the Grange convenes, it is probable that the custom of giving over Wednesday afternoon to a program on lecture work will be followed. Last year the State Lecturer presented "The Lecturer's Field" in a very able manner. This year Miss Buell is planning to focus attention upon the methods of successful lecturers. This part of the state meeting is aimed to impress the value of a program at every meeting upon all members, whether lecturers or not, but is of particular help to lecturers.

The Grange will make the American House headquarters. This and all other hotels in the city have announced special rates for the benefit of patrons attending the meeting. A railroad fare of one and one-half one way fare for the round trip from all points in the lower peninsula has been secured. The Normal faculty and all citizens of Kalamazoo have extended a cordial welcome and the meeting promises to be a wonderfully enjoyable and profitable one.

ANNUAL MEETING OF THE NATIONAL GRANGE.

The National Grange held its forty-fifth annual meeting at Columbus, O., November 15-24. This meeting was preceded by a two-day session of Ohio State Grange. The proceedings of both meetings were replete with evidence of Grange growth and prosperity, a total of 513 subordinate Granges having been organized or re-organized during the year ending Oct. 1, 1911—the largest increase recorded in 35 years. Twenty-nine states contributed to this total and every one of these states was represented at the meeting. In addition a state Grange has been organized in Nebraska since Oct. 1. Nearly all of the states reported a gain in membership during the year, the total membership increase for the country totaling 77,289. During the past ten years the net gain in paid memberships has aggregated 305,745, an average yearly gain of 30,574 members. Among the states, Ohio led in the organization of new Granges with a total of 56, followed by Washington with 51, Oregon with 46, Michigan and New York with 43 each, and the other states with lesser numbers.

Master's Comments and Suggestions.

Following a brief resume of the organization's growth during the year, Master Bachelder advised caution in the launching of co-operative enterprises. The search for a means of reducing the excessive profits of middlemen has led to the formation of a large number of co-operative associations for the purpose of selling crops directly to the consumer, and many others are now in process of organization. The favorable conditions for the adoption of co-operative systems have attracted the attention of professional promoters, who are endeavoring to utilize the desire of the farmers for co-operation as a means to further stock-selling schemes. Caution should be exercised by the members of the Grange in giving their endorsement to these associations, and the character and financial standing of the organizers should be carefully looked into before joining them.

The Master congratulated the Grange on the success attained in regard to electing United States senators by popular vote, and on the favorable outlook for a parcels post system. Postal savings banks, now an actuality, were accredited to Grange effort.

Relative to Canadian reciprocity which failed in Canada, he said that the bill should be repealed, for so long as it re-

mains, Canada can make it effective if she chooses.

The former action of the Grange in regard to a national highway commission was stated, and a non-partisan tariff board was recommended, which shall report directly to congress.

With regard to banking and currency reform, he declared that the Grange favors a banking system that will provide for the effective co-operation of all the banks of the country, so as to make it possible for the stronger banks to aid the weaker institutions in event of widespread financial crisis. He urged that the Grange be ready to give its cordial assistance to an honest practical plan for remedying present currency conditions.

Respecting tariff legislation, he said that the Grange does not oppose an honest downward revision of the tariff, nor does it favor the maintenance of high protection. It simply insists that no reduction shall be made in the duties on farm products unless the duties on manufactured articles are reduced correspondingly at the same time.

Reports of Officers.

Mrs. E. S. McDowell, of Massachusetts, treasurer of the National Grange, reported that the cash balance Oct. 1, 1910, was \$21,243.40; that receipts by secretary the past year were \$13,752.85; that interest on account from Farmers' Loan & Trust Co. is \$515.36; interest on notes, \$2,464.07; payment on notes, \$6,376.25; interest on bonds, \$1,825; sundry receipts, \$290.01; receipts from state Granges for dues, \$25,216.13. It should be noted here that Pennsylvania leads all the states in the amount of dues paid, namely, \$5,110.37. New York is next with \$4,616.84; then Maine, \$2,800.91; Michigan, \$2,292.58; New Hampshire, \$1,810.91. The total assets of the National Grange Oct. 1 last year were

fifty committee, \$1,964.08; National Grange Monthly, \$2,761.05; Hampton case, \$2,729.93; deficit of National Grange Organ, postage and sundries, \$3,611.70.

National Secretary Freeman, of Ohio, reported that there had been 453 new Granges organized for the fiscal year ending September 30, 1911, and 60 re-organized. The receipts of the secretary's office were: Sixth degree fees, \$1,716; seventh degree fees, \$683; charter fees, \$6,795; sales of stock, \$4,555.85; incidentals, \$3, making a total of \$13,752.85. The expenses of the secretary's office were \$937.34.

Committee Reports and Resolutions.

The legislative committee, which consisted of N. J. Bachelder, Aaron Jones and T. C. Atkeson, gave an account of its stewardship during the Canadian reciprocity campaign. That issue made it impossible to secure consideration of any of the legislative policies favored by the Grange, but now the way is open to push the campaign for a parcels post law, governmental aid in highway improvement and tariff revision.

State Master Creasy, of Pennsylvania, in the report of the committee on co-operation, recommended and the Grange endorsed as follows: That co-operative enterprises which involve considerable expenditure of money should be incorporated; that such co-operative enterprises should be confined to Grange membership; that local markets be developed co-operatively for supplying the products of the community; that the National Grange take immediate steps to establish a reliable crop report system; that the executive committee be authorized to take up this matter with each Grange state and co-operate with them for the establishment in the several states of such enterprises as have been suggest-

Grange be paid for at three cents per copy; an emergency appropriation, not to exceed \$1,500; and that a board of managers be elected, one member for three years, one for two years, and one for one year, at this meeting, and hereafter one for three years each year.

Proportional representation in the National Grange came before this meeting in the form of a resolution from Master Stetson, of Maine, favoring a change of representation. The resolution was tabled. The same fate befell a resolution recommending a business-like accounting of National Grange records in line with that now being instituted in public service business in many states.

The proposition to increase the national master's salary to 5,000 a year, presented by Master Creasy, provoked considerable discussion. The committee on officers' salaries substituted \$1,500 for the \$5,000, but this was amended to make the salary \$2,000 a year with expenses, the master to be allowed six weeks' vacation, devoting the whole of his time with this exception to the work of the Grange. The secretary's salary was fixed at \$1,200 per year, with \$4 per diem for actual days employed, and expenses; treasurer's salary, \$500; executive committeemen, \$4 per day and expenses.

Appropriations were voted, for the coming year, of \$2,000 for extension work in states now organized, and \$5,000 for organization of Granges in states where there is now no Grange organization.

Election—Michigan's State Master Made National Lecturer.

The election of officers for the ensuing two years, which was held Nov. 21, resulted as follows: Master, Oliver Wilson, Illinois; overseer, L. H. Healey, Connecticut; lecturer, N. P. Hull, Michigan; steward, D. C. Mullen, Idaho; assistant



Officers and Ex-Officers of Michigan State Grange in 1893.

Upper row, left to right—H. H. Dresser, R. H. Taylor, H. D. Platt, J. G. Ramsdell, Perry Mayo, H. H. Hinds, W. E. Wright, J. H. Martin, George L. Carlisle.
Middle row—A. P. Gray, A. J. Crosby, Thos. Mars, J. J. Woodman, G. B. Horton, M. T. Cole, E. A. Strong.
Lower row—Mrs. A. St. Clair, Mrs. Mary C. Beal (nee Allis), Mrs. A. A. Leighton, Kenyon L. Butterfield, Mrs. Mary A. Mayo, Miss Jennie Buell, Mrs. J. H. Martin.

\$118,825.83. On Oct. 1 this year they totaled \$113,903.04, showing a decrease of \$4,922.79, due largely to the cost of Grange extension work ordered at last session. The total amount spent during the past year in organization work was \$16,947.64, including the deputy fee fund. The total receipts, with the amount on hand Oct. 1 of last year, amounted to \$71,583.06. Expenses for mileage and per diem at the 44th session of the National Grange were \$5,713.20; pension to O. H. Kelley, \$1,200; printing proceedings of 44th session, \$1,435.15; sundry expenses of 44th session, \$1,793.88; general supplies and printing for the year, \$3,269.29; Grange extension, \$14,000; lecture account, \$1,071.59; deputy fee fund, \$2,400; salaries of officers, \$2,600; expended by officers, \$1,979.79; expenses of executive committee, \$1,746.60; expenses of legisla-

ed, and further to appoint from its membership a sub-committee to develop this most important matter under existing business conditions.

The Grange endorsed the resolution presented by Kentucky that until the United States constitution is amended to provide for election of United States senators by direct vote, the Grange favors the adoption of the Oregon plan of expressing popular preference for senators.

The committee on publications, Oliver Wilson, chairman, reported that the total receipts of the National Grange Monthly, the official paper of the order, for the year were \$4,860.09, and the disbursements \$3,948.31. The publication now has 16,162 paid subscriptions. The committee recommended that the size of the magazine be increased from 16 to 20 pages; that all papers furnished to the National

steward, Geo. R. Schaefer, Wisconsin; chaplain, C. F. Smith, Vermont (re-elected); treasurer, Mrs. E. S. McDowell, Massachusetts (re-elected); secretary, C. M. Freeman, Ohio (re-elected); gatekeeper, A. B. Judson, Iowa; Ceres, Mrs. Richard Pattee, New Hampshire; Pomona, Mrs. T. C. Atkeson, West Virginia; Flora, Mrs. A. B. Judson, Iowa; lady assistant steward, Mrs. C. F. Smith, Vermont (re-elected); executive committeeman for three years, C. O. Raine, Missouri (re-elected).

Washington state secured next year's meeting of the National Grange. Invitations were received from that state, New York, Idaho and California. The ballot resulted: Washington, 32; Idaho, 13; New York, 2; California, 6; Nebraska, 1. The meeting will probably be held in Spokane.

FARMERS' CLUBS

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—B. A. Holden, Wixom.
Vice-Pres.—J. D. Leland, Corunna.
Secretary—Mrs. C. P. Johnson, Metamora.

Treasurer—Mrs. Lewis Sackett, Eckford.
Directors—A. R. Palmer, Jackson, Wm. H. Marks, Fair Haven; C. L. Wright, Caro; E. W. Woodruff, Blanchard; C. P. Johnson, Metamora; Patrick Hankerd, Munith.

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

Associational Motto.—

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

Associational Sentiment.—

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

THE ANNUAL MEETING.

Before this issue reaches the reader the seventeenth annual meeting of the Michigan State Association of Farmers' Clubs will have added its work to the history of the organization. This promises to be a very successful meeting for the organization and for the local Clubs represented. A full report of the meeting will be published in this department in succeeding issues. It should be carefully read by every Club member in Michigan, as it will contain much of interest in the conduct of local Clubs as well as a full report of the deliberations of the State Association. The Conference of Local Club Workers is an important feature of this meeting, and will furnish many valuable suggestions to local Club workers in the conduct of the local Clubs in such a manner as to add to the interest of the work and the prosperity of the Club. In the next issue will appear the resolutions adopted by the State Association and succeeding issues will give the gist of the papers and addresses given at the meeting.

A SUCCESSFUL CLUB FAIR SEASON.

In this issue appears another report of a Farmers' Club Fair. This report shows in a striking manner the growth of the Club Fair idea since its inception, and well illustrates the possibilities of this special feature as a means of adding variety and interest to the autumn Club meetings. It can scarcely have failed to escape the notice of the readers of this department that the reports of the Club Fairs which have appeared in this Department of The Farmer throughout the fair season have uniformly expressed enthusiasm regarding the value and possibilities of this special feature of Club work. It is a noticeable fact that no Club which has used the Club Fair as a special feature has a thought of leaving it out of their program for future work. This should be significant to the members of Clubs that have never availed themselves of the advantages to themselves and their local organization which the Club Fair offers. We hope and believe that each succeeding season will see the Club Fair made a feature of the work of more of the local Clubs in the state until the Club which does not hold such a feature will be the exception, rather than the rule. The experience of the progressive Clubs which now have such a feature meeting should be accepted as to the desirability of such an event.

FARMERS' CLUB FAIRS.

Looking-glass Valley Club.

The Club opened the year's work Nov. 14, with a fair and poultry show. This combination proved to be a banner attraction, for over 200 attended.

The meeting was held at Woodman Hall, in Wacousta, with a tent for the accommodation of the poultry. Twenty exhibitors in this department displayed 214 birds. Wm. Wise, of Lansing, judged the fowls and everyone carried off a number of red and blue ribbons.

There were departments of fruit, flowers, canned goods, grain, vegetables and fancy work, each in charge of a live committee and competent judges. Each department was arranged and decorated in a most artistic manner with motto and crepe paper. The fruit in red, grain in yellow, flowers in green, fancy work in pink, and so on.

The apple exhibit and fancy work corner called forth much praise and were voted as good, if not better, than the county fair. All departments displayed a lavish number of ribbons at the close. A great chicken-pie dinner was served at noon and Club adjourned to meet in December at the home of Fred Ainslie, for a corn show with corn expert from the M. A. C.—Bel Maier, Reporter.

CLUB DISCUSSIONS.

Making Farm Life Attractive.—Thursday, September 7, the members of the Burton Farmers' Club were cordially welcomed by Mrs. Clara Auiler and family. President Putnam called the meeting to order and after the usual preliminaries of music and devotions, conducted by Mrs. Hammond, a very profitable program was carried out. "How may we make farm life more attractive?" Mrs. Putnam and others gave many good ideas on this subject. Each one is trying to work out his ideals. Well kept and tidy lawns with nicely painted buildings lend to the attractiveness of the surroundings, while music and good literature help in the homes. Then we must have conveniences to help make life easier about the house, barn and farm. The mode of conveyance, be it auto or a gentle horse which is not too old, makes life more pleasant and lastly we must have a due regard for each other's rights and privileges.

Practical Topics.—"Does it pay to feed lambs for five cents for the barnyard fertilizer?" Mr. Putnam thinks if feed is not too high that it can be done, and receive a fair profit, but it would be a rather slow way to get rich. "Should not the farmers and Farmers' Clubs enforce the law relative to getting rid of weeds?" Mr. Hammond says it should be enforced, but weeds always grow best when the farmer is the busiest. Mrs. Auiler thinks if the farmer is taxed for the cutting of the weeds, the same as in the city, he would see that they are cut next season. G. C. Potter says if the weeds are cut every season there wouldn't be so many to cut. After music, "Good Night Ladies," and the announcement of the program for the next meeting, the Club adjourned to meet the first Thursday in October with Mr. and Mrs. Claud Spies.

The Highway Law.—The Conway and Handy Farmers' Club met with Mr. and Mrs. M. Wilkinson, Nov. 24. An attendance of 100 people, a fine dinner and lively discussions were the order of the day. Topic, "Does the present road law and road building favor the auto owner more than the farmer?" This subject was discussed by several gentlemen and opinion was quite evenly divided. But that the law is not right, the average roads not so good, and the money not used to the best advantage, was the general opinion.

The World's Progress.—"Has the world grown better and wiser in the past fifty years?" was taken up by J. B. Rambo. He showed the great improvements in the banking system and various ways of handling money, changes in transportation, manufacturing, improvements in machinery, telephones and telegraph systems, etc. Rev. Stephens talked upon the religious work, spoke of crimes, foreign element, the educated and uneducated, he said all writers claimed the world was better, but it was oftentimes difficult to know just how. The temptations are greater for our boys and girls; the moral side of life a problem, etc. Mr. H. Aldrich favored the Club with a vocal solo, and responded to an encore. His music is greatly enjoyed by all that hear him. Adjourned after electing Mr. and Mrs. F. Rathbun to our state convention. —Mrs. S. Holmes, Cor. Sec.

Boys' and Girls' Contest.—The Charleston Farmers' Club was very pleasantly entertained in November by Mr. and Mrs. George Perry. The members were asked to guess on the weight of a large squash presented by Mr. Hawley, after which it was weighed and tipped the scales at 29 pounds. Mr. Hawley then divided it among the members. In the corn contest which was open to boys and girls under 20 years of age, the first prize was awarded to Sidney Smith, second to Clifford Palmer, and third to the little Murry boy of Woods Lake. Sidney Herits was also given the prize for the best ear of corn. A fine picnic dinner was served at 10 o'clock, followed by the business meeting and a fine literary program was enjoyed. The next meeting will be with Mr. and Mrs. Moore on Dec. 9. Prizes will be given on corn cake make by girls under 21.

Clover Leaf Club is again active after a long vacation. Met at the home of Mr. and Mrs. O. S. Howe in October. A company of 30 enjoyed a social time and a short program, with discussions on the proper way to feed calves, also on sowing alfalfa and results obtained this year. Mrs. Howe served popcorn, and all spent a happy time getting acquainted with our new neighbors.

Two Meetings Each Month.—October 25 met with Mr. and Mrs. Camfield. After the order of business and short program the ladies served a chicken-pie supper which all seemed to enjoy. We voted to hold our meetings hereafter the second and fourth Tuesdays of each month. We took in six new members. We are growing in number and in knowledge also. Have now about 30 members. As our president had been absent nearly every meeting he asked that we appoint another to fill his chair and Guy Howe was appointed to fill it. A social time was enjoyed and meeting was adjourned.

A Temperance Program.—November 14 a few met at the home of Mr. Hallocks. The night being very cold kept most of them at their own fireside. We had the order of business, also short temperance program. We enjoyed some fine instrumental music by Mr. and Mrs. Hallock, also the graphophone. At a late hour we adjourned, feeling well repaid for our cold drive.—Cor. Sec.

Discuss Season's Results.—The November meeting of the Indianfields Farmers' Club, held at the hospitable home of Mr. and Mrs. J. Fournier, was well attended. The program was a little out of the ordinary, as it was really a report of the crops from the members in different localities. Although Tuscola county suffered from a drought, it is far from being a failure when the report shows that oats went as high as 52 bushels per acre,

wheat from 20 to 35 bushels, corn, 50 to 75 bushels, barley, 35 to 45 bushels. Potatoes being the lightest crop in years went only from 75 to 100 bushels per acre. Hay yielded from one to one and a half tons; beets, 10 to 17 tons, and some a little better. Beans were a hard crop to manage on account of the rains. Those who had them stored before the rains did splendid. Some report as high as 23 bushels per acre, with a very small picking. Owing to the good price paid it was a paying crop in the end. Apples were a very small crop; peaches were an average crop. One reported that a young orchard of peach tree four years old averaged one and one-half bushels to the tree. Pears are an average crop, while cherries and other small fruit are short. The dinner served showed that our Club had an abundance to eat, and the members had their usual good appetites.—Mrs. J. M. Miller, Cor. Sec.

Elect Delegates.—The Genoa Farmers' Club met at the pleasant home of Mr. and Mrs. George Haller, Saturday, Nov. 18. The day being cold and stormy only about 35 were present, but everyone seemed to do his part, not only at the dinner table but towards making the program a very interesting one. After the usual opening exercises, the president gave a few remarks. A paper by Mrs. T. S. S. Curdy was interesting, also a talk by L. R. Richards on the benefits of the state association. The question of saving seed corn brought forth a lively talk from the men, each had his own way of saving it and each the best. The question box was full of good material. Mr. and Mrs. H. J. Lawson were appointed delegates to the state association. Meeting adjourned to meet with Mr. and Mrs. T. S. S. Curdy the second Saturday in December.

Women's Day was celebrated by the Ingham County Club at its November meeting at Variety Grove with Mr. and Mrs. J. W. Chapin, of Eden. The weather was warm and 100 strong were made welcome and all felt it good to be there. After the usual chicken-pie dinner, ably served by the men of the committee, vice-president, Mrs. Horton, called the meeting to order, and with Mrs. Ellett at the piano all joined in singing "A Song for Women's Day." Mrs. Horton briefly reviewed the meetings previously held, giving a synopsis of the program each year and in reviewing the topics presented and the places of meeting, many pleasant and profitable hours were recalled, and like the other Club meetings do much to give variety to the farmer's family. The greeting by Mrs. Ives was ably presented and full of good thoughts and history. American citizens—American womanhood salute you. She fully believed in the doctrine of trinity, and spoke of the trinity of light, of the world, of nature, and home trinity of father, mother and child. In 1873 one of the first poems she ever wrote was read to the members of this Club at the Fuller farm, entitled, "Our Homes," and after speaking of the greatest thing in the world she closed with a poem, "Love One Another."

Pictures in the Home.—Mrs. O. H. Freeland gave a fine paper, "Pictures in the Home," fully illustrated. She spoke of the average American woman presiding over the average home and giving much attention to harmony in the furnishing of same but too often neglecting the pictures. If a vacant space on the wall needed a picture one would often be selected merely by chance. She had large mounted pictures from the state library showing the different kinds, and spoke especially of the educational value where there were children. She recommended copies from paintings from the famous artists and had these to illustrate architecture, "The Madonna," "Feeding the Birds," "Gleaners," "Humble Tasks" cheerfully performed, and others. She wondered how many knew of the value of the state library that was simply ours for the asking and one could learn so much there by spending a little time.

"Literature in the Home," by Miss Gilchrist, dean of the woman's department, M. A. C., was full of interest. She described literature as expression of life and expression of truth, and in speaking of children's books said a book which a child really likes, a grown-up person will like. Abraham Lincoln's library consisted of four books—the Bible, Aesop's Fables, History of the United States and Life of Washington, and these included history, biography and story. She regretted the Bible had been taken from many of our schools and thought it the best of books. No library was complete without the works of Shakespeare and some poetry. One ought to be familiar with some of the writings of Scott, Tennyson, Longfellow, Whittier and others, and spoke of "Cotter's Saturday Night" having a great influence. Of stories there were too many, but a few good ones were all right, and the short story was often a rest, but do not allow our girls to spend too much time reading stories. They might better do some manual tasks. Avoid dialect and slang. She spoke of the magazines and the art of skimming and to keep up the habit of reading aloud and memorizing favorite sayings. The one who never reads is just as good as the one who reads and does not digest. Whatever is worth doing at all is worth doing well. The next meeting will be held the second Saturday of December, at which time occurs the election of officers and making of plans for the coming year.

Discuss the Telephone Problem.—The Maple River Farmers' Club held one of their pleasant and profitable sessions with Mr. and Mrs. P. B. Reynolds. A large number of visitors were present to enjoy the excellent program. The "Telephone Problem" was the first topic on the afternoon program and was spoken on by E. T. Cook, president of the Shiawassee County Co-operative association. Mr. Cook said that he had not abandoned all hope that there would be brought about some solution to the telephone problem which stirred up country-wide interest last winter. Mr. Cook stated that as soon as farm work laxated a

committee would go before the railroad commission and endeavor to secure redress for the recent increase in telephone rates. The project of establishing a farmers' telephone line is still under consideration. There is prevalent a feeling among the farmers that the \$15 rate is beyond the value of the service, in view of the fact that the toll system is in operation in the county.

A Farmers' Trust.—"Shall the Farmers Form a Trust?" was spoken on in an interesting and instructive manner by E. J. Cook. "A trust," said Mr. Cook, "is the sole power to deal exclusively in the market in any kinds of goods." Mr. Cook does not believe that it is in the higher interest of the public to have companies possessed of the sole power to deal exclusively in the market, as it destroys competition and crowds out smaller industries. The farmers, however, can work together advantageously in selling and purchasing, without injuring commercial development. The farmer must keep pace with the times and to this end must organize.

"Short Cuts in Housekeeping" was presented in a highly entertaining and educational manner by Mrs. Myra Richardson. The kitchen should receive first consideration as the housewife spends much of her life in this part of the home. Conveniences that eliminate steps and centralize work should be employed. Having a place for things and putting them in their place is a vital matter in reducing work in housekeeping. Many new inventions are inexpensive and great labor saving devices and should be found in every country home. Preparing meals ahead oftentimes assists in economy of work. Mrs. Richardson's talk was full of helpful suggestions and brought out much discussion.

Michigan Farmer's Club List.

For the benefit and convenience of our subscribers we have arranged the following list of papers on which we can save them money. Besides the money, they save the trouble and expense of sending each order separately.

EXPLANATION.—The first column is the regular subscription price of the other papers. The second column gives our price for a year's subscription to both the other paper and the Michigan Farmer. The third column gives the price at which the other paper may be added when three or more are ordered. Example: We will send the Michigan Farmer and Detroit Semi-Weekly Journal for \$1.00. If, for instance, McCall's Magazine is also wanted add it at 40c making total \$1.40. Any number of papers may be added at third column price if they are for a subscriber to the Michigan Farmer.

If you want the MICHIGAN FARMER THREE YEARS and the other papers one year add \$1.00 to the second column price. For the Michigan Farmer 5 years add \$1.75. We do not send samples of other papers. Address the publishers direct.

Send all orders to the Michigan Farmer or through our agents.

We will take your order for any publication you want whether listed or not. Write for rates.

NOTE.—So long as a subscriber is on our list for one or more years he may order at any time any publications at third column price. So that a three of five year subscriber does not lose the advantage of the reduced price if he wants any other paper next year or the year after.

Subscriptions ordered to Canada require postage. Write for rates unless postage is known, in that case include with order. Postage on Michigan Farmer alone to Canada is 1 cent per week.

NAME OF PUBLICATION.	See explanation above.
Daily, (6 a Week.)	
Journal, Detroit Mich., on rural route	2 50 3 50 2 55
off	5 00 5 25 4 75
Times, Detroit.....	2 00 2 65 1 75
Herald, Grand Rapids.....	2 50 3 00 2 50
Press, Grand Rapids.....	2 00 2 50 2 00
News, Grand Rapids, Mich.....	2 00 2 50 1 50
Courier-Herald, Saginaw, Mich., (inc. Sunday) on R. R.....	2 50 2 50 1 60
News, Cleveland, Ohio.....	2 00 2 75 1 85
Tribune, Bay City, Mich.....	2 50 2 75 1 85
Blade, Toledo.....	2 50 2 75 1 85
News-Bee, Toledo, Ohio.....	2 00 2 50 1 60
Tri-Weekly, (3 a Week.)	
World, New York, (3 a week).....	1 00 1 65 75
Semi-Weekly, (2 a Week.)	
Journal, Detroit, Mich.....	1 00 1 60 70
Weekly Newspapers and Current Comment	
Blade, Toledo, Ohio.....	1 00 1 25 35
Commoner, Wm. J. Bryan, Editor, Lincoln, Neb.....	1 00 1 50 60
Inter Ocean, Chicago (w).....	1 00 1 25 35
Cattle, Sheep, Swine, Poultry, etc.	
American Poultry Journal, Chicago (m)	50 1 25 35
American Poultry Advocate, Syracuse, N. Y. (m).....	50 1 25 35
American Sheep Breeder, Chicago (m).....	1 00 1 50 90
American Swineherd, Chicago (m).....	50 1 25 35
Breeder's Gazette, Chicago, (w).....	1 25 1 90 1 00
Farm Poultry Boston, Mass. (s-m).....	50 1 25 35
Gleanings in Bee Culture, Medina, O. (s-m).....	1 00 1 50 60
Hoard's Dairyman, Fort Atkinson, Wis.	1 00 1 65 75
Horseman, Chicago, (m).....	1 00 1 50 90
Jersey Bulletin, Indianapolis, Ind. (w)	1 00 1 50 90
Kimball's Dairy Farmer, Waterloo, Ia. (s-w).....	40 1 25 35
Poultry Keeper, Quincy, Ill. (m).....	50 1 25 35
Poultry Success, Springfield, O. (m).....	50 1 25 35
Reliable Poultry Journal, Quincy, Ill. (m)	50 1 25 35
Swine Breeders' Journal, Indianapolis, Ind. (s-m).....	50 1 25 35
Popular Magazines.	
American Magazine, (m).....	1 50 2 00 1 10
Etude, Philadelphia, Pa. (m).....	1 50 2 00 1 10
Hampton's Magazine, N. Y. (m).....	1 50 2 00 1 10
Metropolitan Magazine, N. Y. (m).....	1 50 2 00 1 10
Mechanical Digest, Grand Rapids (m).....	50 1 15 25
McClure's Magazine, N. Y. (m).....	1 50 2 00 1 10
Musician, Boston, Mass. (m).....	1 50 2 00 1 10
Outing Magazine, N. Y. (m).....	3 00 3 25 2 00
People's Home Journal, N. Y. (m).....	50 1 30 35
Pearson's Magazine, New York (m).....	1 50 2 00 1 10
Red Book Magazine, Chicago, Ill. (m)	1 50 2 25 1 35
Success, N. Y. (m).....	1 00 1 65 75
Ladies' or Household.	
Designer, N. Y. (m).....	75 1 50 60
Harper's Bazar, N. Y. (m).....	1 25 1 85 95
Housewife, N. Y. (m).....	50 1 30 40
McCall's Magazine, N. Y. (m).....	50 1 30 40
Mother's Mag., Elgin, Ill. (m).....	50 1 30 40
Modern Priscilla, Boston, Mass. (m).....	50 1 35 45
Pictorial Review N. Y. (m).....	75 1 50 60
Woman's Home Companion, N. Y. (m)	1 50 2 00 1 10
Religious and Juvenile.	
American Boy, Detroit Mich. (m).....	1 00 1 65 75
Little Folks, Salem, Mass. (m).....	1 00 1 70 80
Young People's Weekly, Elgin, Ill. (w).....	75 1 40 50

FREE PREMIUMS.

Those subscribing for the Michigan Farmer in combination with other papers are allowed premiums just the same as if the order was for the Michigan Farmer alone. One premium only for every Michigan Farmer order. Orders for other papers alone will receive no premium under any circumstances.

MARKETS

DETROIT WHOLESALE MARKETS.

December 6, 1911.

Grains and Seeds.

Wheat.—Wheat prices have fluctuated during the week in both cash sales and future contracts, the lowest price being on Tuesday when the bears forced the price down because of the continued heavy receipts from the northwest. Farmers in the spring wheat section appear to be delivering their grain freely and either the estimates have been too small or there exists a feeling among the growers that they had better dispose of practically all of their stores, hence the continued heavy receipts at central points. Latest news from the wheat belt indicates, however, that primary elevators are beginning to see a decline in the loads arriving. Conflicting news of conditions in Argentina keep the traders uncertain about the support that country will give to the world's wheat trade. Liverpool has been tolerably steady, which indicates her confidence that Argentina will be able to make up any shortage that might exist. A year ago No. 2 red wheat was selling at 96½¢ per bu. The visible supply shows an increase of slightly over one million bushels. Quotations for the week are:

	No. 2	No. 1	Red.	White.	Dec.	May.
Thursday	95½	92¾	96¾	96¾	1.01½	
Friday	96¼	93¼	97¾	97¾	1.02½	
Saturday	97¼	95	98¾	98¾	1.03	
Monday	96¾	94½	97¾	97¾	1.02½	
Tuesday	95½	93	96¾	96¾	1.01	
Wednesday	94¾	92½	95¾	95¾	1.00½	

Corn.—Corn values have been on the decline the past two weeks, the increased receipts of new corn being largely responsible. However, the slump in wheat has had its effect. Weather conditions have improved, allowing husking to proceed, which gives a more hopeful outlook to traders in this grain. The demand from eastern consumers and distributors has declined, which is due, no doubt, to marketing by local growers throughout the country. One year ago No. 2 corn was quoted at 54¢ per bu. The visible supply shows an increase of about one-half million bushels. Quotations are as follows:

	No. 3	No. 3
	Corn.	Yellow.
Thursday	65	65
Friday	65	64
Saturday	65	64½
Monday	64½	64
Tuesday	62½	62
Wednesday	61½	62½

Oats.—Prices have remained steady at the closing figures a week ago. There is very little business being transacted on the local market. The decline in wheat and corn, however, made the outlook less promising to holders of this grain. The price one year ago was 36¢ for standard oats. The visible supply shows a slight decrease. Quotations for the week are as follows:

	Standard.	No. 3
		White.
Thursday	50½	50
Friday	50½	50
Saturday	50½	50
Monday	50½	50
Tuesday	50½	50
Wednesday	50½	50

Beans.—There is practically no trading in this department. Nominal quotations are slightly below those given a week ago, there being no change, however, during the week. Reports to this office testify that many fields of grain will not be threshed at all, the crop still being on the ground. Following are the quotations:

	Cash.	Jan.
Thursday	\$2.23	\$2.25
Friday	2.23	2.25
Saturday	2.23	2.25
Monday	2.23	2.25
Tuesday	2.23	2.25
Wednesday	2.20	2.25

Clover Seed.—There is some trading in the clover seed market. Prices rule about the same as a week ago with the exception of a 5¢ decline in March seed on Monday. Alsike is steady. Quotations are as follows:

	Prime Spot.	March.	Alsike.
Thursday	\$12.50	\$12.60	\$10.50
Friday	12.50	12.60	10.50
Saturday	12.50	12.60	10.50
Monday	12.50	12.55	10.50
Tuesday	12.50	12.55	10.50
Wednesday	12.50	12.55	10.50

Timothy Seed.—No transactions are reported and the nominal price remains at \$7.20.

Rye.—Rye has suffered a decline of 2¢ in harmony with wheat, the present quotations for cash No. 2 being 94¢ per bu.

Flour, Feed, Potatoes, Etc.

Flour.—There is an active demand for flour, with prices unchanged, except a 10¢ advance for ordinary patent:

Straight	4.10
Patent Michigan	4.75
Ordinary Patent	4.50

Feed.—All grades steady with last week. Carlot prices on track are: Bran, \$27 per ton; coarse middlings, \$29; fine middlings, \$32; cracked corn, \$30; coarse corn meal, \$30; corn and oat chop, \$28 per ton.

Hay and Straw.—Both hay and straw steady with last week, with supplies light. Quotations are: No. 1 timothy, \$20@21; No. 2 timothy, \$19@20; clover, mixed, \$18.50@20; rye straw, \$9.50@10; wheat and oat straw, \$9 per ton.

Potatoes.—This market occupies a strong position with conditions sustaining prices of last week. Offerings are limited. Car lots on track are quoted at 85@90¢ per bushel in bulk.

Provisions.—Family pork, \$18@21; mess pork, \$17; medium clear, \$17@18.50;

hams, 14½¢; bacon, 13@14½¢; pure lard in tierces, 9½¢; kettle rendered lard, 10½¢ per lb.

Dairy and Poultry Products.

Butter.—The local market continued the upward movement by making another 1¢ advance this week in creamery offerings, dairy and packing stock remaining steady. This advance is in harmony with the trend of prices elsewhere. Quotations are: Extra creamery, 36¢; first creamery, 35¢; dairy, 21¢; packing stock, 20¢ per lb.

Eggs.—The demand and restricted supply has forced egg values 2¢ higher than they were a week ago. Fresh receipts, case count, cases included, are quoted at 32¢ per dozen.

Poultry.—Values here have changed during the week because of the effect of the holiday trade. Live chickens have advanced while dressed are little lower. Turkeys have also declined. Other kinds remain about steady. Quotations are as follows: Live—Turkeys, 16@17¢; geese, 11@12¢; ducks, 14¢; young ducks, 15¢; spring chickens, 10@10½¢; No. 2 chickens, 8¢ per lb; hens, 8½@9¢. Dressed—Chickens, 10@11¢; hens, 8@9¢; ducks, 16@17¢; geese, 12@13¢; turkeys, 16@17¢.

Cheese.—Michigan old, 15½@17¢; Michigan, late, 15½@17¢; York state, new, 16@17¢; Swiss, domestic block, 17@20¢; cream brick, 15@16¢; limburger, 14@15¢.

Veal.—Market steady. Fancy, 10@11¢; choice, 8@9¢ per lb.

Dressed Hogs.—Light, \$7.75; medium, \$7.50; heavy, \$7 per cwt.

Fruits and Vegetables.

Cabbage.—Higher. Selling at \$1.75@2 per bbl. for home-grown.

Onions.—Steady at 95¢@1 per bu.

Apples.—Baldwins and Greenings \$2.75 @3; Spy, \$3@3.50; Ben Davis, \$2@2.50; Snows, \$3.50@4 per bbl.

OTHER MARKETS.

Chicago.

Wheat.—No. 2 red, 95½@97¢; May, 98½¢; July, 93½¢ per bu.

Corn.—No. 3, 59¼@60¼¢; May, 62½¢; July, 62½¢ per bu.

Oats.—No. 2 white, 49½¢; May, 49½¢; July, 45½¢ per bu.

Barley.—Malting grades, 94¢@1.23 per bu; feeding, 70@80¢.

Butter.—Creameries show a general advance of 2¢ while best dairy stock has made a 3¢ gain. Offerings continue light but the extreme prices are having a tendency to slow up the demand. Creameries, 28@36¢; dairies, 25@33¢.

Eggs.—A change in the system of grading in this market would seem to indicate uncertain and unsatisfactory condition in the receipts. Trade is quiet with recently advanced figures ruling. Quotations are: Firsts, grading 45 per cent fresh, 28@30¢; ordinary firsts, 25@27¢; at mark, cases included, 22@28¢ per doz.

Potatoes.—Receipts at this week's opening showed a material falling off, giving the market a steady undertone and advancing Michigan and Minnesota stock 1¢. Michigan stock is now quoted at 84@86¢ per bu; Wisconsin, 80@85¢; Minnesota, 84@86¢.

Beans.—Prices have suffered another decline all along the line with business quiet. Choice hand-picked pea beans quoted at \$2.35 per bu; prime, \$2.28; red kidneys, \$3.15 per bu.

Hay and Straw.—Hay steady to firm at former values. All kinds of straw higher, rye straw making gain of 1¢. Quotations: Choice timothy, \$22.50@23.50 per ton; do., No. 1 \$21@22; do., No. 2 and No. 1 mixed, \$19.50@20; do., No. 3 and No. 2 mixed, \$14.50@18.50; clover, \$15@17; do., No. 2 and no grade, \$8@13; rye straw, \$10.50@11.50; oat straw, \$9@10 per ton; wheat straw, \$8@9 per ton.

Apples.—There is a good demand for this fruit. Fancy goods sell best. The offerings are selling from \$2 to \$4.25 per bbl. according to kind and quality.

New York.

Butter.—All grades have advanced 2@2½¢. Market is firm. Creamery specials are quoted at 39¢ per lb; extras, 38¢; firsts, 35@36½¢; seconds, 32@34¢; thirds, 28@30¢ per lb.

Eggs.—Market is firm under a general advance of 2¢. Fresh gathered extras, 43@45¢; extra firsts, 40¢; seconds, 32@35¢; western gathered whites, 35@45¢ per dozen.

Poultry.—Live.—Market firm; chickens have made a good advance but turkeys are lower. Western chickens, 11@13¢; fowls, 11½@13½¢; turkeys, 14@16¢. Dressed—Dull, with turkeys materially lower. Turkeys, 10@22¢; fowls, 5@16¢; western chickens, 5@16¢ per lb.

Boston.

Wool.—While no material change in the demand for territory wool exists, there is a firmer trade for fleeces owing to the scarcity of this kind and the anxiety of the manufacturers to lay in their supply. Prices appear to be firmer with the seller having the advantage in trading. At the London wool sales offerings of superior quality were quickly sold at firm prices under spirited competition. Following are the leading domestic quotations on the local market: Ohio and Pennsylvania fleeces—Delaine washed, 30@31¢; XX, 28¢; fine merino, 22@23¢; ½-blood combing, 26¢; ¾-blood combing, 25@25½¢; ¼-blood combing, 25¢; delaine unwashed, 25¢; fine unwashed, 21¢. Michigan, Wisconsin and New York fleeces—Fine unwashed, 20¢; delaine unwashed, 23¢; ½-blood unwashed, 24½¢. Kentucky, Indiana and Missouri—¾-blood, 24¢; ¼-blood 24¢.

Elgin.

Butter.—Market firm at 36¢ per lb., which is an advance of 1¢ over last week's quotation. Output for the week, 626,400 lbs., as compared with 641,800 lbs. for the previous week.

THE LIVE STOCK MARKETS.

Buffalo.

December 4, 1911.

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

Receipts of stock here today as follows: Cattle, 202 cars; hogs, 140 double decks; sheep and lambs, 100 double decks; calves 800 head.

With 202 cars of cattle on our market here today and 28,000 reported in Chicago, our market on all fat grades is from 15@25¢ per cwt. higher than last Monday, and at the close everything is well cleaned up; market closing steady, with prospects fair at present prices.

We quote: Best 1,400 to 1,600-lb. steers \$7.65@8; good prime 1,300 to 1,400-lb. do. \$7.40@7.75; do. 1,200 to 1,300-lb. do., \$6.75 @7; best 1,100 to 1,200-lb. shipping steers \$5.75@6.25; medium butcher steers, 1,000 to 1,100, \$5@5.50; light butcher steers, \$4.50@5; best fat cows, \$4.50@5.25; fair to good do., \$3.50@4.25; common to medium do., \$2.75@3.25; trimmers, \$2.25@2.75; best fat heifers, \$5.25@5.75; good fat heifers, \$4.50@5; fair to good do., \$3.75@4.25; stock heifers, \$2.75@3; best feeding steers, dehorned, \$4.75@5; common do., \$3.50@4; stockers, all grades, \$3.25@3.50; prime export bulls, \$5@5.25; best butcher bulls, \$4.25@4.75; bologna bulls, \$3.25@4; stock bulls, \$3@4; best milkers and springers, \$5@6; common to good do., \$25@35.

The general hog market was about a nickle lower today than the close of last week. Best quality mixed and medium weights selling at \$6.45@6.50; few bunches fancy heavy weights at \$6.55@6.60. Best quality and weight yorkers generally at \$6.35@6.40. Light yorkers around \$5.90@ to 6; pigs from \$5.75@5.85; good kind of rough sows, \$5.70@5.75. Few decks late arrivals going over unsold; market closing easy. We do not look for much change in prices in the near future.

The sheep and lamb market was active today; most of the choice lambs selling at \$6.60@6.65. Market closed dull; tops, 6½¢. Look for shade lower prices the balance of the week, unless the runs continue light. The sheep market was rather slow; most of the best ewes selling from \$3.25@3.50; few heavy weights a shade more; wethers, \$3.75@4. Prospects about steady on sheep, as they are a little low in proportion to lambs.

We quote: Best lambs, \$6.60@6.65; cull to common do., \$5@5.50; wethers, \$3.75@4; bucks, \$2.25@3; yearlings, \$4.25@5; handy ewes, \$3.50@3.75; heavy ewes, \$3.25 @3.35; cull sheep, \$1.75@2.50; veals, choice to extra, \$9.25@9.50; fair to good do., \$7.50@9; heavy calves, \$3.50@5.

Chicago.

December 4, 1911.

Received today 27,000 45,000 40,000
Same day last year. 33,863 29,655 34,435
Received last week. 51,970 137,646 89,454
Same week last year. 72,659 148,381 143,562

Fat stock show opened Saturday, and this bright Monday there are hosts of visitors from all directions, busy inspecting the stock. Some fat yearlings and long-fed steers on the show order sold this morning at \$9.25, and some fine steers brought \$9.15. At this time there are numerous offerings intended for the International, but not fancy enough to be admitted, and these are sold satisfactorily. The general cattle market is fairly active at steady prices, with fat butcher cows and heifers higher, while steers poorly fattened sell slowly at weak to slightly lower figures.

Hogs are active today at about steady prices, with one sale of fancy heavy swine reported at \$6.55. Light hogs are bringing \$5.50@6.30. The hogs received last week averaged 211 lbs., compared with 203 lbs. a few weeks ago, 232 lbs. a year ago and 218 lbs. two years ago.

Sheep are fairly active today at prices largely 10@15¢ lower than the best time last week, with choice lambs going at \$6. Heavy yearlings sell up to \$5, and light yearlings are worth as much as \$5.40. Choice wethers are salable at \$4 and choice ewes at \$3.35.

Cattle were not in especially large demand last week, Thanksgiving time being unfavorable for the beef trade everywhere in this country, as poultry temporarily is eaten in place of other meats. Once more the great irregularity in the supplies resulted in bringing about large fluctuations in prices, for the Monday receipts, 29,384 head, were excessive, causing a sharp decline before the close of the day, while the Wednesday's run proved so unusually small that sellers got much higher prices, Monday's decline being recovered, with some additional advances in numerous cases, the demand being mostly from eastern shippers. The greater part of the steers sold during the week brought \$5.60@7.90, the common to fair light-weight steers going at \$4.50 @5.75, and choice to fancy heavy steers fetching \$8@9.20. Cattle that passed as good sold between \$7@7.75, while a medium class brought \$6 and over. Good to prime yearlings went at \$7.10@8.85, and lots of warmed-up steers went at \$6.25@6.65, with stalk-fed light cattle bringing down to \$5.50 and lower, although not much of a killing kind sold under \$5.50. Butcher cows and heifers had an outlet at \$3.40@6.25, a few sales being at higher figures, and a sale took place of 24 prime 984-lb. heifers at \$7. Cutters sold at \$2.80@3.35, canners at \$1.75@2.75, bulls at \$3@5.50 and calves at \$3@8.25. The stockers and feeder trade was slower than usual, with numerous sales as much as 15@25¢ lower, stockers selling at \$3@4.90, and feeders at \$4.40@5.75. A good class of 850 to 950-lb. feeders brought \$4.90@5.25, and attractive stock steers sold at \$3.75@4, such as would have sold a week earlier 25¢ higher. Many country buyers were staying at home, waiting for the feeder cattle ex-

hibits at the International Live Stock Exposition. Milch cows sold fairly at \$30 @75 each.

Hogs had as good a sale as could be expected in Thanksgiving week, with no live stock market Thursday, prices displaying more weakness than usual, with much the biggest run on Monday. Otherwise the general features of the market changed very little, there being the accustomed scarcity of well-matured heavy lard hogs and far too many light hogs and little pigs. It is pleasing to hear that colder weather is causing an abatement of hog cholera in various sections, but it is not so encouraging to see so many light hogs sent to market simply because of the high price of corn. The choice consignments of heavy swine sold at a big premium, as usual, with choice light bacon hogs at a large discount and little pigs much the lowest of all. As the great sacrifice of pigs and young hogs cannot fail to cut severely into the future supply of hogs, the prospect is exceedingly good that prime barrows will continue to sell high enough to make substantial returns to owners even if recent prices are lowered considerably, and fat cattle, too, promise to sell high. The greatly curtailed supplies for the week told on prices after the first few days, and closing prices were nearly as high as a week ago, late sales being at \$5.50@6.50, pigs going at \$4.65@6, with roasters at \$5.50 and over and stags at \$6.50 to 6.75. Prime heavy hogs sold as much as 30¢ above prime light bacon lots.

Sheep and lambs were held back last week by so many owners, especially after Monday, that those who had consignments on the market were able to sell by Wednesday at sharp advances. The limited offerings of prime lambs naturally made the most advance, with not enough to go around, although prime sheep and yearlings also sold decidedly higher. The closing of the range shipping season is extremely favorable for sheepmen in feeding districts throughout the country, and if they exercise proper care in fattening their holdings and in marketing them at opportune times, they will doubtless make substantial profits, as far smaller numbers are being fattened than last winter. This week the International exposition held here will be an important feature, as the fine exhibits of all the breeds of sheep cannot fail to deeply interest progressive sheep breeders everywhere. Late in the week the bulk of the fat lambs sold 50@75¢ higher than a week earlier and sheep 25@50¢ higher. Lambs went at \$3.75@6.25; yearlings at \$4.50@5.50; wethers at \$3.25@4.10; ewes at \$1.75 @3.50 and bucks at \$2.25@3. Thin stock sold badly.

Horses were extremely dull last week, with prices largely nominal for the better class, especially for such heavy drafters as sell around \$250@300 per head. Such horses as have arrived recently sold mainly at \$150@200, with a very ordinary kind salable at \$65@125 and country shippers making no money on such lots in a number of cases. After New Year's better times are expected. There will be no horse market until the close of the stock show.

LIVE STOCK NOTES.

A short time ago, F. M. Heinrich, of Montana, broke all records for range cattle by selling on the Chicago market 20 head of prime range-bred and grass-fed steers that averaged 1,525 lbs. for \$7.90 per 100 lbs., being 30 cents higher than the previous high record. The remainder of his big consignment sold for \$6.15 to \$7.50 for steers and for \$4.40 to \$5.65 for cows and heifers. This important transaction demonstrates again that range cattlemen are in the habit of paying more attention to grading up their herds than the majority of corn belt farmer stockmen. The country is shooting ahead in population at an enormous pace, largely through immigration, and now that the ranges are disappearing, the wide awake farmers cannot fail to see plainly that it is up to them to go into breeding and raising high-grade beef cattle to meet the future great demand for beef. Profitable herds of cattle and flocks of sheep are going to be great moneymakers before many years roll by, and farmers should buy good beef cows and some pure-bred stock, at the same time investing in silos.

Many farmers in the corn belt states have decided to feed no cattle this winter, and this is particularly the case with farmers where hog cholera has destroyed their young hogs, the average farmer being opposed to feeding cattle where he has no hogs to follow them. Such farmers as a general rule have plenty of corn, and as colder weather has assisted in the work of husking and cribbing the new crop, supplies available for marketing are becoming much larger. Since harvest corn has sold remarkably high, and with sales recently as much as 20 cents per bushel higher in the Chicago market than a year ago, lots of farmers claim that marketing corn will pay out better than feeding it on the farm. No. 2 cash corn has sold within a short time close to 65 cents, but has declined since, the country shipments having increased materially.

A. W. Bragg, of Illinois, recently marketed in the Chicago stock yards two car loads of fancy Angus cattle that topped the market at \$9.10 per 100 lbs. He said: "These cattle were on feed from ten to eleven months, and my main feed was corn and cob meal ground fine during that period. In most former years I have made use of about 2½ pounds of cottonseed meal per head in the finishing process period, but this year I used alfalfa meal instead, and I believe I got a good finish, as the 20 loads of my cattle marketed up to today showed me an average price of \$9.13 per 100 lbs., and today's sale of the last out will reduce that only a little."

THIS IS THE FIRST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

December 7, 1911.

Cattle.

Receipts, 1,242. Market steady at last week's prices.

We quote: Best steers and heifers, \$6 @6.75; steers and heifers, 1,000 to 1,200, \$5.25@5.75; do., 800 to 1,000, \$4.25@5; do. that are fat, 500 to 700, \$3.50@4; choice fat cows, \$4@4.50; good fat cows, \$3.50@3.75; common cows, \$2.75@3.25; canners, \$1.50@2.75; choice heavy bulls, \$4@4.25; fair to good heifers, \$3.50@3.75; stock bulls, \$2.50@3.25; choice feeding steers, 800 to 1,000, \$4.50@5; fair do., 800 to 1,000, \$3.75@4.25; choice stockers, 500 to 700, \$3.50@4; fair stockers, 500 to 700, \$3@3.50; stock heifers, \$2.50@3.25; milkers, large, young, medium age, \$4@5; common milkers, \$2.50@3.50.

Roe Com. Co. sold Kamman 14 steers av 630 at \$3.75; to Bresnahan 9 cows av 942 at \$2.75; to Schumacher 6 butchers av 706 at \$4.25, 2 bull and heifers av 730 at \$3.50; to Regan 1 cow weighing 670 at \$3.25; to Sullivan P. Co. 1 do weighing 1,050 at \$4; to Thompson Bros. 10 butchers av 644 at \$3.75; to Hammond, S. & Co. 13 do av 780 at \$4.50, 2 do av 830 at \$4; to Newton B. Co. 9 do av 642 at \$3.75, 1 cow weighing 800 at \$3.50; to Hammond, S. & Co. 4 cows av 1,037 at \$2.75, 1 steer weighing 1,160 at \$7; to Parker, W. & Co. 3 canners av 933 at \$2.50.

Bishop, B. & H. sold Bresnahan 10 canners av 895 at \$2.70, 7 cows av 864 at \$3.70, 3 do av 1,034 at \$2.80, 1 bull weighing 720 at \$3.25, 5 stockers av 606 at \$3.25, 3 canners av 1,010 at \$2.60, 6 stockers av 678 at \$3.65, 5 do av 698 at \$4, 7 do av 681 at \$3.75; to Mich. B. Co. 13 steers av 900 at \$5; to Parker, W. & Co. 1 bull weighing 1,190 at \$3.75, 1 do weighing 1,160 at \$3.75, 25 steers av 1,269 at \$6.75; to Rattkowsky 6 cows av 1,041 at \$3.50, 1 bull weighing 760 at \$3, 2 cows av 1,050 at \$3.75; to Newton B. Co. 10 butchers av 780 at \$4.25, 22 do av 824 at \$4.85; to Goose 5 cows av 960 at \$3.25; to Newton B. Co. 1 do weighing 1,120 at \$3.50, 2 do av 1,030 at \$3.10; to Sullivan P. Co. 1 do weighing 1,080 at \$4; to Rattkowsky 1 do weighing 1,130 at \$3.75, 1 bull weighing 1,470 at \$4; to Regan 3 heifers av 590 at \$3.40; to Johnston 35 black stockers av 354 at \$4; to Sullivan P. Co. 6 cows av 1,133 at \$2.75, 1 steer weighing 820 at \$4, 2 do av 860 at \$4.50, 7 butchers av 980 at \$4.25, 1 cow weighing 900 at \$3; to Kamman 14 butchers av 655 at \$4; to Forstyth 28 feeders av 784 at \$4.50; to Hammond, S. & Co. 3 cows av 916 at \$2.60; to Newton B. Co. 10 butchers av 767 at \$4.60, 1 bull weighing 820 at \$4, 2 heifers av 755 at \$4.50; to Bresnahan 11 canners av 963 at \$2.75; to Thompson Bros. 13 cows av 1,017 at \$3.30, 13 butchers av 774 at \$4.50.

Spicer & R. sold Bresnahan 1 cow weighing 1,270 at \$2.75, 2 do av 900 at \$2.50, 1 do weighing 880 at \$2.65; to Gerish 20 steers av 1,066 at \$5.50, 1 bull weighing 1,240 at \$4.25, 1 do weighing 1,110 at \$3.85, 1 steer weighing 960 at \$4.25, 1 do weighing 640 at \$4.25; to LaBoe 14 butchers av 744 at \$4; to Hammond, S. & Co. 31 do av 864 at \$4.40, 15 do av 900 at \$4.40, 31 do av 820 at \$4.15, 18 do av 722 at \$3.75, 6 cows av 1,030 at \$3.50, 1 do weighing 920 at \$2.50; to Sullivan P. Co. 1 do weighing 1,250 at \$4.75; to Schumaker 2 stockers av 670 at \$3.75; to Thompson Bros. 6 butchers av 900 at \$4.25, 1 cow weighing 1,140 at \$3.25; to Rattkowsky 3 do av 1,137 at \$3.50; to Erban Bros. 1 heifer weighing 680 at \$3, 10 do av 590 at \$3.25.

Haley & M. sold Kamman 11 butchers av 604 at \$3.85; to Kamman 1 bull weighing 920 at \$3.50, 1 cow weighing 1,170 at \$4, 1 do weighing 1,150 at \$3, 2 do av 900 at \$3.30; to Newton B. Co. 3 do av 1,083 at \$4, 2 do av 1,025 at \$4, 1 do weighing 840 at \$3.25; to Bresnahan 3 canners av 960 at \$2.65; to Schumaker 4 feeders av 805 at \$4.35; to Sullivan P. Co. 2 steers av 1,000 at \$5.75; to Schlicher 7 cows av 850 at \$3.85, 1 do weighing 1,160 at \$2.75, 9 butchers av 585 at \$3.05; to Hirschleiman 14 do av 607 at \$3.50, 2 bulls av 590 at \$3; to Goose 1 cow weighing 930 at \$2.75, 4 do av 755 at \$3.75; to Goose 14 butchers av 357 at \$3.15.

Stephens sold Parker, W. & Co. 6 cows av 861 at \$2.75.

Weeks sold same 7 do av 950 at \$2.75.

Weeks sold Hirschleiman 6 butchers av 823 at \$4.30.

McLachlin sold Bray 1 stockers weighing 660 at \$2.70, 6 do av 590 at \$3.20.

Allington sold Bresnahan 2 cows av 915 at \$3, 5 do av 824 at \$2.35.

Sharp sold Mich. B. Co. 4 cows av 1,040 at \$3, 4 butchers av 770 at \$4.

Weeks sold same 2 bulls av 1,280 at \$3.85, 12 butchers av 750 at \$4.20, 4 do av 685 at \$3.75, 2 cows av 1,045 at \$3.

McLachlin sold Kamman 1 steer weighing 1,010 at \$5.50, 2 do av 790 at \$5, 1 do weighing 850 at \$4.50, 3 heifers av 516 at \$3.50.

Johnson sold Hammond, S. & Co. 8 cows av 920 at \$2.85.

Veal Calves.

Receipts, 553. Good grades active; common dull at last week's prices. Best, \$8@8.75; others, \$4@7.75.

Haley & M. sold Rattkowsky 6 av 250 at \$3.25, 2 av 135 at \$6.50, 3 av 160 at \$7.50, 2 av 180 at \$6.50.

Bishop, B. & H. sold Newton B. Co. 4 av 155 at \$8.25, 1 weighing 110 at \$6, 3 av 140 at \$8, 2 av 135 at \$8, 1 weighing 120 at \$6; to Thompson Bros. 2 av 150 at

\$8, 5 av 125 at \$6; to Rattkowsky 2 av 110 at \$6, 1 weighing 140 at \$8.50, 3 av 130 at \$7, 4 av 135 at \$6.50; to Kull 2 av 135 at \$8; to Goose 8 av 130 at \$7.75. McLaughlin sold Mich. B. Co. 1 weighing 170 at \$7.50, 4 av 125 at \$6.50. Heenev sold same 8 av 130 at \$7.50. Spicer & R. sold Kull 2 av 185 at \$2.75, 3 av 130 at \$8.50, 1 weighing 120 at \$7. Roe Com. Co. sold Newton B. Co. 7 av 155 at \$8.25.

Sheep and Lambs.

Receipts, 6,524. Market steady at last week's prices; sheep strong. Best lambs, \$5.60@5.75; fair do., \$4.75@5.25; light to common do., \$3.50@4.50; fair to good sheep, \$3@3.25; culls and common, \$1.75@2.50.

Spicer & R. sold Sullivan P. Co. 33 lambs av 85 at \$3.40; to Mich. B. Co. 191 do av 75 at \$5.75; to Nagle P. Co. 92 do av 75 at \$5.75, 169 do av 73 at \$5.50; to Barlage 17 do av 55 at \$4.50, 19 do av 50 at \$4.50, 5 sheep av 80 at \$2.25, 4 do av 125 at \$2, 21 do av 110 at \$2.75; to Kull 25 lambs av 60 at \$5; to Hayes 19 do av 50 at \$4.25.

Bishop, B. & H. sold Hammond, S. & Co. 34 lambs av 57 at \$4, 54 do av 73 at \$5, 56 do av 80 at \$5.50, 72 sheep av 85 at \$2, 13 do av 110 at \$3.25; to Nagle P. Co. 64 lambs av 76 at \$3.65, 22 sheep av 90 at \$3, 94 lambs av 73 at \$5.50, 221 do av 78 at \$5.75; to Sullivan P. Co. 48 do av 55 at \$4, 32 do av 45 at \$4, 25 sheep av 90 at \$2.25, 5 do av 85 at \$2, 9 lambs av 57 at \$3.50, 78 do av 75 at \$5.25; to Newton B. Co. 24 do av 75 at \$5.50, 17 sheep av 85 at \$3, 25 do av 105 at \$2.50; to Thompson Bros. 34 do av 120 at \$2.25, 24 lambs av 50 at \$3.50, 42 do av 60 at \$4.25; to Breitenbeck 69 do av 65 at \$5.35, 76 sheep av 107 at \$3, 62 lambs av 55 at \$3.50; to Taylor 46 do av 55 at \$4.15, 115 do av 57 at \$4.15, 34 sheep av 52 at \$1.75; to Fitzpatrick Bros. 34 do av 70 at \$1.75, 20 do av 95 at \$2.50, 67 do av 90 at \$3, 46 lambs av 73 at \$5.25, 14 sheep av 100 at \$2.50, 44 do av 105 at \$3, 16 lambs av 57 at \$4, 35 do av 85 at \$5.75, 15 sheep av 90 at \$2.75.

Haley & M. sold Parker, W. & Co. 136 lambs av 72 at \$5.60, 145 do av 75 at \$5.50; to Mich. B. Co. 172 sheep av 103 at \$3.05; to Rattkowsky 8 do av 150 at \$3.25; to Hayes 37 lambs av 60 at \$4.25, 9 do av 45 at \$3.

Sharp sold Mich. B. Co. 78 sheep av 115 at \$3.25, 14 do av 75 at \$1.50, 30 lambs av 80 at \$5.50.

Roe Com. Co. sold Newton B. Co. 16 lambs av 78 at \$5.50, 28 sheep av 90 at \$2.50.

Heenev sold Nagle P. Co. 45 lambs av 75 at \$5.60.

Hogs.

Receipts, 6,122. Market steady with Wednesday, 10@15c lower than last week. Range of prices: Light to good butchers, \$6@6.10; pigs, \$5@5.40; light Yorkers, \$5.75@6; stags one-third off.

Bishop, B. & H. sold Hammond, S. & Co. 2,580 av 200 at \$6.10, 875 av 175 at \$6.05, 1,560 av 170 at \$6, 765 av 160 at \$5.90.

Haley & M. sold Parker, W. & Co. 480 av 200 at \$6.10, 425 av 185 at \$6.05, 315 av 170 at \$5.75, 130 av 140 at \$5.50.

Spicer & R. sold same 619 av 200 at \$6.10, 280 av 180 at \$6.05, 455 av 175 at \$6, 170 av 165 at \$5.75.

Roe Com. Co. sold Sullivan P. Co. 125 av 200 at \$6.10, 630 av 190 at \$6.05, 80 av 180 at \$5.70.

Professor Dietrich, of the University of Illinois, was on the Chicago market recently with a car load of college fed hogs that contained some pigs only eight months old which had made an average weight of 307 pounds. He has been preparing a bulletin on the swine experiments of the present year that cannot fail to greatly interest all swine raisers.

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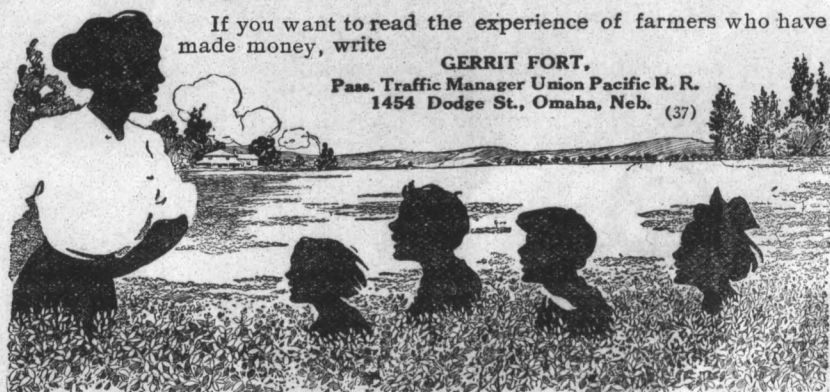
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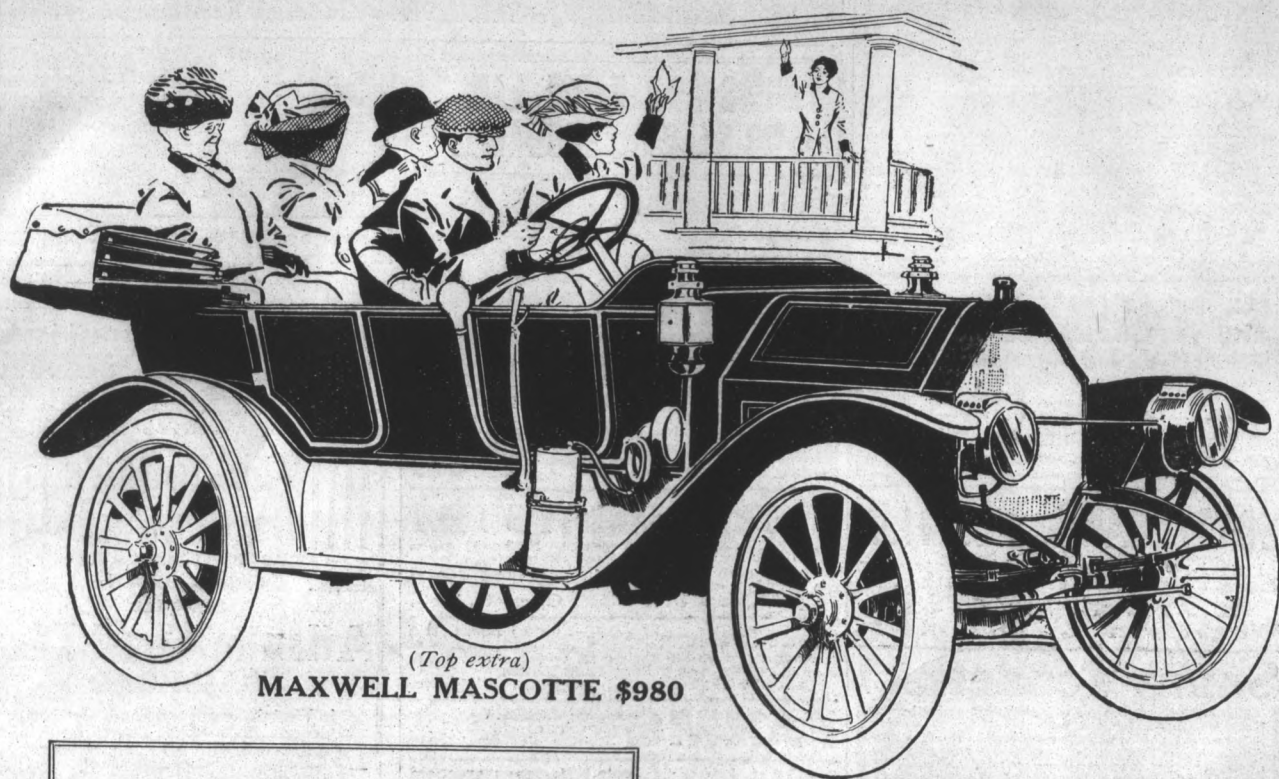
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