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FARM NOTES.

Fertilizing Potato Land.

I have a field that is rather light soil and has been run some, not much, but slightly. I would like to plant it to potatoes if practicable. I have plenty of manure and can get some hardwood ashes but have understood that either of them were liable to produce scab on potatoes. Outside of the potato crop I need lots of feed and have been advised to sow this field to soy beans and seed with a mixture of clovers and alfalfa. I am ready to plant or sow anything that will produce the most feed or roughage. Also will buy any kind of fertilizer that would answer on this patch. I can get a quantity of hardwood ashes by hauling about two miles. Will it pay to get them and should they be sifted before spreading on the land.

Ogemaw Co.

W. S.

If this land is in grass, with plenty of stable manure available, it would be a safe proposition to cover it with a good coat of stable manure during the winter or as early in the spring as practicable and plant it to potatoes. In this event, the field should be plowed as early as it can conveniently be done in order to get the most benefit from the manure in the potato crop. Both stable manure and ashes are, as stated in this inquiry, said to produce scab on potatoes. This, however, is a mistake. Sometimes the scab fungous may be present in stable manure, but generally this is not the case, it being more often planted with the potatoes. Ashes place the soil in a condition to more readily harbor the bacteria which produces scab on potatoes because the lime in the ashes gives the soil an alkaline reaction and any bacteria will develop more certainly and more rapidly in an alkaline soil. But as a matter of fact, this does not apply to harmful bacteria alone. The beneficial soil bacteria, such as the clover bacteria and many others, also thrive much better in a soil with an alkaline reaction. This can be secured by applying lime in almost any form; probably the lime contained in ashes is in as good a form as it is possible to secure it. Aside from this fact, ashes contain considerable actual plant food, generally from two to seven per cent of potash and about two per cent of phosphoric acid aside from something like 30 to 35 per cent of lime. There is probably no doubt that the yield of potatoes would be increased by the application of a liberal coat of ashes and, provided potatoes have not been grown upon this land recently, such an application would probably not induce a serious amount of scab if the seed potatoes are thoroly treated to destroy the spores of the scab fungus before the seed is planted. Provided both stable manure and ashes are used upon this land, however, they should not be mixed, for the reason that the lime in the ashes will liberate the nitrogen in the stable manure and it will escape in the form of ammonia gas and be lost. The manure should be plowed down and the ashes applied to the surface and well harrowed in when the land is fitted for the planting of the crop. Hardwood ashes are the most valuable of any and are generally given a valuation of from \$6 to \$10 per ton for application to the soil. Of course, if of poor quality or somewhat leached from exposure to

A FEW LEADING ARTICLES OF THE WEEK.

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the weather their value would be considerably reduced. They will, however, be well worth hauling a distance of two miles and, used in connection with stable manure on sandy land that is slightly run, will help to balance up the elements of fertility and the two will prove as profitable a combination as could be used. They will prove equally as good for other crops, provided it is desired to grow some forage crop instead of the potatoes. But in either event, it should be easy to get a seeding of clover following such an application to the soil.

The Grasshopper Problem.

During the past season grasshoppers have been very numerous in this section, and have done much damage, especially to seeding of clover. Have they come to stay and is there any method of destroying the pests?

Allegan Co.

H. M. T.

During the past 10 years grasshoppers have been prevalent to a destructive degree in several different sections of Michigan. Something like 10 years ago, they were so numerous in the writer's locality that a great deal of damage was done to growing crops and clover seeding was almost universally destroyed by them. Various remedial agencies were tried but with no very great success. Fall plowing of old sod ground in which the eggs are very generally deposited, is probably about the most practical method that can be employed. But with the changing seasons, the conditions for their propagation did not seem to be so favorable and after

two or three normal seasons following the dry ones in which the grasshoppers were so prevalent, they practically all disappeared, and have not bothered any since. Other sections of the state, however, have suffered considerably from the pest since then. The writer spent a week in the Upper Peninsula last summer looking over agricultural conditions and in some localities the grasshoppers were so thick as to be a real pest. At the Upper Peninsula Experiment Station, as noted in an article published by the Michigan Farmer last summer, Director Geismar found that the Criddle mixture, so called, was effectual in poisoning these pests so as to practically exterminate them over the area on which it was used. Of course, this would be a better general than local remedy in any neighborhood, but if as successful in other places as Director Geismar found it would pay to experiment with it at least. This mixture is made and used as follows:

The mixture consists of one pound of Paris green and two pounds of salt, which are mixed with fifty pounds of horse manure, one or two pailfuls of water being added to facilitate the mixing. A shovelful for every four to six rods square was found to be sufficient, and is most effective when deposited upon dry sandy knolls. Grasshoppers feed upon the mixture more freely while it is moist, hence clear horse manure, free from straw or other litter, is preferable

on account of being more compact and for this reason better able to retain moisture.

THE BUSINESS SIDE OF FARMING.

Economical Farm Areas.

There is a diversity of opinion as to the farm areas which the increased demand for agricultural products will take. The old couplet about a "little farm well tilled," etc., is quoted by many and advocated by economists, usually of the transportation school. Those who see the advantages of small farms, thickly settled, the district traversed by steam or electric roads, view the question largely from a transportation standpoint. The value of a franchise depends upon the population, and profits increase with the increase of population much faster than operating expenses. In an electric railroad project everyone from "Grandma to the baby" is figured in to show population to the mile, and then comes the cows that will furnish the milk in cans and the chickens that lay the eggs, all considered from the standpoint of traffic. Magazine articles and addresses of transportation managers give the cue to this idea of farm areas. "Intensive farming," "Every man under his own vine and fig tree," etc. The story of the Dietrich farm is quoted as a farm precedent to show how far short even good farming is of the ideal. The Rev. Dietrich's farming operations were what might be called the limit of possibilities, and even he could not keep up the gait nor reproduce the results.

When the question of supplying water to some area of land under a government irrigation project was being considered, it was finally determined that 160 acres of individually owned land would be the limit. Homesteads were 160 acres and, while the government had acted on that unit more from a survey standpoint, it was found to be a suitable and generally desirable farm area. Farmers had apparently adjusted themselves to the quarter section as a unit and a capacity to that unit was developed. The emancipated Negro had an original idea of forty acres and a mule as being about his size but, as a rule, his capacity was not equal to the area. The Bonanzas in the Red

River valley in the 80's, where thousands of acres were cropped with wheat on the Dalrymple and Cass and Cheney farms, were found to be unwieldy and have been cut up into smaller places. The large grants of land in California have been similarly divided into small holdings. Stock farms for grazing and fattening seem to permit larger holdings than where dairying and general farming is followed.

The economy of small farms in superintendence and personal care is offset by too great a proportion of buildings, tools, teams, etc., to the acreage. Where market conditions permit the application of labor to fruits, vegetables, etc., small areas are profitable. However, the average American does not take kindly to such work and in the end has severe competition with the gardener of foreign birth. The Chinese and Japanese have largely taken this line into their exclusive care and keep-



More Farmers Are Each Year Using the Power Husker, with which Stored Corn Can Be Husked in Winter.

ing on the Pacific coast, and with the same feeling on the part of the American born farmer that his Michigan brother has turned over the beet weeding to the Slavonic people.

The difference between a machine and a tool is that the former uses power outside of man while the tool is but the extension of man's physical power.

The American farmer is pre-eminently a user of machinery, a fact which the transportation school of writers overlook. It is this American trait that demands an acreage adapted to machinery, and the relief from tedious toil that machinery and power gives takes the farmer out of the "man with the hoe" class. "A little farm well tilled" cannot support a gasoline engine, grain binder, manure spreader, etc., however practical the idea may be. No country equals the United States in the perfection of agricultural machinery and, after these machines have been provided and the capacity to operate them has been developed, it is scarcely logical to expect that the general run of farms will have lessened acreage. In fact, the general tendency of heavier locomotives and greater tonnage capacity of cars as a measure of economy, simply means that as man's capacity increases he exerts more power individually. It can scarcely be true that an exception be made of the man who farms with machinery at his command and with ability to use it. I would regard it as a retrogression and a calamity if the farmer were to cultivate an acreage below the limit of the economical employment of machinery.

Noblesse Oblige

Is a French phrase which means that rank imposes obligation. When the farmer takes the obligation of feeding and clothing a nation, and then some more, he might reverse the French words and say that obligation imposes rank. Dooley told his friend Hennessy that "at Newport a man had to have the money, and also had to look to have it." The farmer must and will, in his own way, rise to the occasion of meeting the demands for food and clothing, just as it is the business of the coal operators to gauge the supply of coal to the demand for fuel, and the railroad managers to see that there is no car shortage. And further, the farmer must have his pay, commensurate to the rank of his services, a condition which is not conceded entirely by other members of society.

To illustrate, a bulletin from the Michigan Agricultural College (No. 257, October, 1909), gives some valuable data on rearing calves. The average weight of 57 calves at one year was 647.6 lbs. The total average cost at one year for feed was \$27.59, and cost per cwt. at one year \$4.27. The Detroit market as quoted in the Michigan Farmer for January 8, shows the following values:

"Steers and heifers that are fat, 500 to 700, \$3.50@4."

The prices charged for feed which was eaten by these calves are given in the bulletin as follows:

Scale of Prices for Feed.

Whole milk	\$1.00 per cwt.
Skim-milk	.20 per cwt.
Silage	2.50 per ton.
Hay	5.00 per ton.
Green feed	2.00 per ton.
Roots	2.00 per ton.
Dried beet pulp	15.00 per ton.
Corn meal	20.00 per ton.
Oats	20.00 per ton.
Wheat bran	18.00 per ton.
Oil cake	28.00 per ton.

These calves were stable fed and absolutely no charge made for labor. It is also to be noted that the price charged for feed is very low, probably 25 per cent below the present current prices. Such bulletins are of special use, not only to give the details of raising calves, but the cost. Perhaps not consciously, as a whole, but for the mere reason that it did not seem to pay, there have been fewer calves raised and more have gone to the block by way of veal. Raising calves at less than cost price is unbusinesslike, and farmers are not doing it so much as formerly and ought not to do it at all to sell at the prices named, these being, after freight shrinkage and profits of handling are included, that much less for the farmer than the gross stock yards price.

The advance and advancing prices are in need of no apologies, but are rather complimentary to the business farmer. In January, 1908, top prices of hogs in Chicago was \$4.90, when the government estimates 56,084,000 swine, and corn for that same time and place was 57¢@60¢ per bu. January, 1910, saw hogs reach the \$9.00 mark with a decrease of 2,000,000 head. Breeding stock went to the slaughter houses because hogs sold for less than cost. Meats cannot be produced in a

single year and are more subject to estimates than grain crops, and the farmer is simply adjusting production to price. He has assumed the obligation to feed the people; he is going to run a first-class house, with the best on the table that the season affords, and the charge is going to be proportioned to the service. The farmer has looked pleasant and acted as tho he liked it when it required strong self control to do so when prices for his products were below cost. Now, when prices are advanced, he commends his forbearance and humility to others. It is Christian virtue to be honest, and incidentally to compel others to be likewise. The militant ex-president commended the idea of walking softly and carrying a big stick. The business side of farming will listen to such grandiloquent expressions as "The Farmer being the bulwark of the Nation" and the "special depository of our nation's virtue," but will not forget that "production at or below cost is neither a virtue nor a bulwark. Steel tanks were used by farmers to store wheat in the northwest, so as to prevent a glut in the market. When hog prices drop the lid is put on as to shipments. One of the effects is to make the farmer a student of markets and to pay close attention to the crop prospects and yield.

If the agricultural department were to issue bulletins of crop conditions, estimates, reports and of animals, with a similar degree of publicity, that is given the weather reports, marketing could be done much more advisedly. A captain of industry who gets his picture in the papers and magazines would have little advantage over the farmer if the figures of production were known. I once asked a live stock commission salesman how market prices were established. He explained that leading buyers estimated the supply to arrive and the market started on that basis, to advance or recede as the estimates were verified and as modified by general demand. "The market was slow getting started" means that conditions are being studied before an absolute price is offered. An even distribution of supplies, a close understanding with your banker, for credit to carry if necessary, together with a study of demand is the position of rank that the business farmer must hold when he plays well his part as the national commissariat.

Shiawassee Co. JAS. N. McBRIDE.

THE NEW ROAD LAW.

For a period of two years the new road law has now been tried, and so far as my own judgment goes, I believe it to be a success.

Of course, my own observation has extended over my own community only, but in the two years this law has been in force I have seen more permanent work done upon the highways than in all the rest of the time I have lived in this locality. Many pieces of road have been graded up, and many culverts have been put in, turning the water off in some direction to preserve the lasting condition of the roadbed. I have never before seen so much concrete work done upon the highways, the same being used in the construction of culverts, small bridges, etc.

Perhaps a small percentage of these culverts might have been improved upon a little, but taken as a whole the work is good, and once there and rightly constructed, they are there to stay, and are certainly a great improvement in any community where they are made.

Of course, I know that many farmers have found fault with the new order of things, because they have been compelled to pay the amount of their road work out in money, but I can not see why this should make any difference to any of them, for if they so desire, they may still do the amount of their work, and much more besides, for there are always some farmers who do not care to put in their time doing road work, so long as the law does not compel them to serve.

There is also some fault found because a few farmers can not have road work done just where, and just as, they would like to see it done, but all should remember that everything can not be done in a minute, and there is no man ever elected to office who is going to please everybody, no matter how hard he tries or how good a man he may be.

Much fault was found with the old system of doing things, and it is quite likely that under any system there are some who will continue to find fault, but my own opinion is that the new road law is a success and I hope to see it continue in force.

Montcalm Co. J. H. HANKS.

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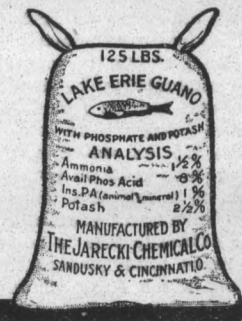
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FERTILIZING POTATO LAND.

Last year (1909) I carried on, for my own special pleasure and benefit a fertilizer experiment in potatoes.

I am writing regarding the results of this experiment, not to tell anyone how to fertilize their land for potatoes—no one can do that, but rather to suggest a method by which anyone can determine for himself just what to fertilize with, how much fertilizer to use, and when to apply it for the best results in a financial way.

No person can tell any farmer, only in a general way, what to use per acre of any element, because every farm will vary in its needs and generally every field on a certain farm. But there is a way by which every farmer can determine to a nicety just what element and how much of it will give him the best results on a certain crop in a certain field. And this can be determined by asking his land what it needs, what element is lacking, by the means of plot fertilizer tests.

As farmers, there is one fact we should ever bear in mind when manuring or fertilizing, that the crop can be no greater than the element which is present in the soil to the smallest extent will allow. Therefore, our aim should ever be to apply to our land these elements which are needed to make up a balanced food supply for the certain class of plants which we intend to grow. A great many farmers say it does not pay to use commercial fertilizers and a great many say this from results which they have gotten in using them.

If the facts in the case were known, however, in almost every case the failure to get good results could be traced to supplying the wrong element, in the wrong form, at the wrong time or in the wrong way for the certain crop, to a lack of a proper amount of humus or to improper seed and cultivation. A man may fertilize ever so heavily and if he does not use the right thing, at the right time and in the right way, and then do all other things which help to make a good crop he can not expect to get results. Every farmer can best find out what to use and how, when, and in what amount by the use of the plot fertilizer test.

Right here I am going to give the results which I got this year from my experiments but before doing so want to again say that these results can be of no value to anyone else, only in a general way. But by showing just how any one can do the same I hope to cause others to consider how much every one of us need to know for certain just what is needed in the way of fertilizers to produce a maximum crop with the minimum amount of expended time, energy and money, and as time goes on and land becomes valuable, our needs along this line will become even greater than they are today.

Thirteen plots, each one rod square, are used in this experiment. Plot 1 was left unfertilized, plot 2 was fertilized, and plot 3 left unfertilized, and thus on thru the plots every other plot was left as a check plot. The sulphate of potash used ran 48 per cent actual potash and the acid phosphate 14 per cent phosphorus. The fertilizer was applied broadcast about one week before the potatoes were planted and harrowed into the soil.

Results of the Experiment.					
Plot.	Per Acre.	Cost per Acre	Yield per Acre	Gain or Loss bu.	Gain or Loss Money.
1	.....	.....	185 1/2 bu.	.....	.....
2	100 lbs. S. P.	\$ 2.25	129 1/2 bu.	42% loss.	\$12.92 loss
3	.....	.....	158 1/2 bu.	.....	.....
4	100 lbs. S. P., 320 lbs. A. P.	5.45	136 bu.	9% loss.	7.78 loss
5	.....	.....	132 bu.	.....	.....
6	200 lbs. S. P.	4.50	161 1/2 bu.	41% gain.	5.83 gain
7	.....	.....	108 bu.	.....	.....
8	200 lbs. S. P., 640 lbs. A. P.	10.90	168 bu.	43% gain.	0.07 loss
9	.....	.....	141 1/2 bu.	.....	.....
10	320 lbs. S. P.	7.20	176 bu.	48% gain.	4.80 gain
11	.....	.....	114 1/2 bu.	.....	.....
12	320 lbs. S. P., 1,175 lbs. A. P.	18.95	186 1/2 bu.	56% gain.	0.79 loss
13	.....	.....	145 1/2 bu.	.....	.....
Sold potatoes for 25c per bushel.					

In my case 200 lbs. of sulphate of potash per acre gave the greatest money return.

Why the first two fertilized plots were fertilized at a loss is more than I can say.

On plots 6, 8, 10 and 12 I have already received, or more than received, pay for the fertilizer used, in the increase of the first crop and whatever benefits to succeeding crops are received will be clear gain, and I am sure they will be many.

Eaton Co.

W. C. ECKARD.

VAN BUREN COUNTY POTATO YIELDS.

In a recent Farmer I noticed, under heading of "A Splendid Potato Yield," a statement that "this yield was said to be the greatest of any ever known in Southern Michigan." And it is this last

remark that leads me to mention that right here in Van Buren county, this fall, Harry Lurkins had nine acres and 79 rods which yielded 3,920 bushels, (a little more than 400 bushels per acre). Jay Lyle had 2,060 bushels on six acres. Jason Woodman had 3,400 bushels on 8 3-10 acres, a little over 390 bushels per acre, and sold and delivered on cars 3,200 bushels at 35 cents. "There are others," but these are all neighbors and I know the grounds were accurately measured and yields correctly stated. And we do not think a yield of 320 bushels anything uncommon around here this season.

Van Buren Co.

SUBSCRIBER.

A GOOD YIELD OF CORN IN ST. JOSEPH COUNTY.

Mr. A. M. Smith, of St. Clair county, reports a big yield of corn in your issue of Jan. 15, and asks others to report. This county (St. Joseph), had a very large crop, but there are very few farmers who can tell just what their yield was, for the reason that the corn is husked and cribbed and they begin feeding it out at once and sell what they don't need. If a few rows are husked and weighed or measured, they are very apt to be selected from the best part of the field, and the estimate of the average from them would be hardly fair, altho it might not be much out of the way. On the writer's farm this last season we had two ten-acre lots in corn; one was put out by my son, the other by a neighbor, both lots a clover sod. My son has just sold his half of his crop and the average per acre was 70 bushels of shelled corn. The other field was a close second, but none of it has been weighed or measured.

St. Joseph Co.

B. Q. GOODRICH.

THE IMPORTANCE OF GOOD SEEDS.

The importance of good seeds is better appreciated on American farms today than ever before, yet a great many farmers do not attach the importance to this factor of success which they should. Whether for planting farm crops, for the garden or for the beds or borders of flowers, good seeds are the first requisite of success and satisfaction in the results. Good seeds must not only be true to name, but should germinate well and make vigorous plants with the desired characteristics. In fact, good seeds must be well bred seeds with generations of good ancestors if good results are to be secured from them. This is just as important with seeds as it is with live stock, and in some cases even more so, because the problems of breeding for improvement are more difficult. The reliable seed firms of the country have experimental farms devoted entirely to the breeding of stock seeds for the production of improved strains from which their contract seeds are grown. This is an extensive and important branch of their business, without which the quality of the seeds distributed to farmers and gardeners thruout the country could not be kept up to their present high standard. Perhaps the government seed distribution, which should have been abolished long ago, is more responsible than any other one thing for the lack of progress along this line, for the reason that the seeds distributed free by the congressmen are generally of an



GREAT WESTERN

LET US POINT OUT THE MANY GOOD FEATURES OF "The World's Best"

GREAT WESTERN Spreader

This picture shows the front end of the GREAT WESTERN Manure Spreader.

It looks good, doesn't it?

Let's begin at the bottom and tell you more about GREAT WESTERN construction:—
The front axle is made of cold-rolled steel shafting. Mounted on this is a big, heavy, OAK axle cap, clamped on with FIVE clips. Above the axle cap is securely bolted a great, big, strong, 16-inch MALLEABLE iron, or fifth-wheel, braced front and back with MALLEABLE braces. These braces are bolted solidly to the axle cap and take in the steel axle as well. This makes the front end of a Great Western so strong that you can put on the largest load of wet, heavy manure, and hitch on as many horses as you wish. **WE GUARANTEE** you can't pull the front end out or break it.

On top of this big 16-inch fifth-wheel, you will see two short OAK braces, and bolted on to them are the two big, heavy, 3x5-inch OAK BOLSTERS.

The big, strong iron brackets on each end of the bolsters weigh 25 pounds each, and the connection with the axle frame is SOLID.

The Great Western has the only automatic oscillating fifth-wheel made. If one front wheel drops into a hole or a dead furrow, it opens up just like a spring wagon and the body is not twisted out of shape. You can see that this twisting of the frame, going over rough ground, makes the manure bind on the sides of the bed. That means heavy draught.

WHAT DOES THIS MEAN?

The **FRONT END** of the manure spreader is a VERY important part of the machine, because you pull from it. The spreader always carries a heavy load, and you need the BEST material and **STRENGTH** in spreading manure on frozen ground, in corn stubble, going across dead furrows, etc. It **NEEDS** great strength, doesn't it?

LET US REPEAT—with the GREAT WESTERN construction you can't put horses enough on or load enough on to pull the front end out or break it.

PLEASE REMEMBER that every stick of wood shown in the above picture is OAK, and that the 16-inch fifth-wheel and all braces and clips are the best MALLEABLE—and NOT cast iron.

The Great Western is the "World's Best" today, and all we ask is that you make comparisons, investigate and **THINK** before buying. Breakdowns with a manure spreader are expensive and dangerous to both the man and team, so you want to buy quality.

BECAUSE of the great strength and proved superiority of the GREAT WESTERN Spreader; because it stands head and shoulders above all cheap imitations and light machines on the market.

We Guarantee Every Great Western Manure Spreader to Have

50 per cent less breakage **50 per cent more strength**

More Oak, Hickory, malleable and high-grade steel; 50 per cent more wear and service than any other spreader made.

It's true, that a high-grade machine, like the GREAT WESTERN, built out of the very best material that money can buy, cost more to start with, but it's by far the cheapest in the end. Don't let anyone sell you something that they say is just as good, and charge you as much as you would have to pay for a GREAT WESTERN. Don't be fooled. When you go to buy a spreader, **know for yourself** what every part is made of. Take your knife and see that the timber is OAK; take your rule and measure the parts; take a sledge hammer and pound the fifth-wheel. It pays big to buy the best.

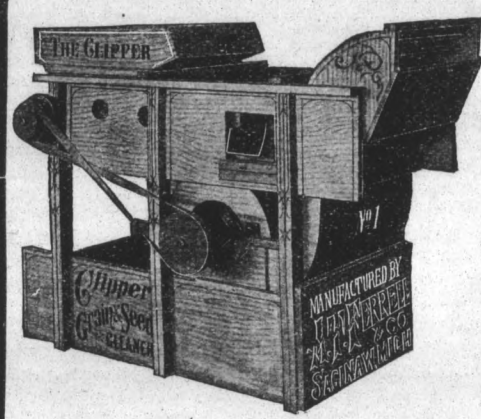
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LIVE STOCK

REPORTS OF THE RECENT BREED MEETINGS.

The meetings of the several breed organizations which are held at the time of the general congregation of breeders for the winter live stock meeting are an important feature of that meeting. The usual number of these breed meetings were held at the Agricultural College during the annual live stock meeting held on January 12 and 13 and we are publishing as follows, brief reports of several of them, as provided by the secretaries of the several breed organizations.

Michigan Horse Breeders' Association.

The second annual meeting of the Michigan Horse Breeders' Association was held in the Michigan Agricultural College, East Lansing, Mich., January 12, 1910, with a large number of enthusiastic horsemen in attendance. The meeting was called to order at 2:00 p. m. in one of the large, light, airy rooms of the new Agricultural Building, President Gibbons presiding. As part of the program the president gave a fine opening address, giving tribute to members of the equine family, followed by the secretary and treasurer's report.

Mr. H. C. Waldron, of Ann Arbor, gave us a very valuable paper on the present status and future of draft horses in Michigan, in which he placed the draft horse king of all horses, citing the big "sixes" of the International as examples for our future work.

The light harness horse was discussed quite generally. Some suggested that for intelligence, usefulness, pleasure and companionship, he was supreme. A few intimated that the automobile had this class of horses going, but we think this is not quite true.

J. M. Beddow, of Birmingham, prepared an extremely instructive paper in behalf of the ponies, telling of their educational influence on children and the important part they play in the industrial world. Those breeders of ponies, especially Shetlands, who are not keeping them purebred and true to size and type were criticised quite keenly, as they were putting on the market something that was neither a horse nor a pony, and thus doing an injustice to themselves as well as breeders of horses and ponies.

Dr. W. W. Thornburn, of Lansing, discussed "the bony structure of the horse, and the danger of defects being reproduced in the offspring," in a very able manner.

Mr. H. H. Hinds, of Stanton, president of the Michigan Live Stock Sanitary Commission, spoke to us on the "Health of Michigan horses and their freedom from infectious and contagious diseases," saying that no equal area could boast of the health of its horses as Michigan can. He attributed this to the fact that the legislature had enacted some very strenuous laws regarding glanders, etc., in horses.

Dr. J. E. Ward, of Perry, gave us some very valuable pointers in regard to artificial impregnation, suggesting the use of the bulb syringe form of impregnator and stating that he had not found the breeder's bag, for either male or female, very practical. A scientific discussion of copulation and impregnation followed, in which some very valuable information was dealt out to an appreciative audience.

Dr. L. M. Hurt, of Lansing, discussed the proposed stallion law and its experience in the Michigan Legislature, and read to us a new proposed stallion bill, stating that nearly all neighboring states had such laws and that if Michigan did not do something to regulate stallion practice, etc., that our state would be the dumping ground for stallions that could not pass inspection in other neighboring states.

Dr. Reynolds, of the Minnesota Experiment Station, gave some valuable remarks along similar lines, suggesting some changes he would make in their stallion law if they were to make it over.

A committee of three was appointed by the chair to draft a bill regulating stallion practice in Michigan and present at next meeting in January following.

At about six o'clock p. m. we managed to get down to the bottom of the program, and proceeded to the election of officers. This was a very quiet and uneventful affair, as some one got up and made a motion that all old officers be re-elected to respective offices. Some one supported the motion and vote was taken which proved favorable to motion, and

meeting stood adjourned, with following officers for the ensuing year: President, Robt. Gibbons, Detroit; secretary, J. C. Palmer, Belding; treasurer, W. B. Otto, Charlotte; vice-presidents, Henry C. Waldron, Ann Arbor; Geo. Ackerman, Elkton; C. F. Sattler, Charlotte; C. C. Hoag, Charlotte; A. P. Green, Olivet; W. W. Collier, Pontiac. J. G. PALMER, Sec. Michigan Shorthorn Breeders' Association.

In the absence of Mr. P. P. Pope, last year chosen president and who has left the state, Mr. G. F. Ottman, of Merlebeach, vice-president, presided and gave a short address. He said the Shorthorn was popular everywhere; that the breed was cosmopolitan. He told that the farmers in Michigan demanded a general purpose cow, and that the outlook for breeders of the red, white and roan was bright.

The main address was by Mr. W. S. Robbins, of J. G. Robbins & Sons, Horace, Ind., who spoke on "The Future of the Shorthorn as a Dual Purpose Animal." He said the demand for the dual purpose Shorthorn was increasing. The breaking up of the vast ranges and the taking up of the land for agricultural purposes assured a good future for the dual purpose cow. We can no longer look to the west for our supply of feeders. The cattle feeder must soon raise his own feeders, and then will there be a great demand for Shorthorns.

An interesting address was given by Mr. G. A. Brown, of the College, on "The Development of the Milking Shorthorn." He said catering to the demands of the ranges and the show ring had injured the dairy qualities of the Shorthorn. In developing a herd of milking Shorthorns he laid down three essentials:

1. Milk your cows and keep records. Use the scales and the Babcock test. It is not necessary to change your lines of breeding. It is more a matter of development than of breeding. Not necessary to select cows of dairy form.
2. Rear young stock by hand. Avoid heavy fleshing; build up the frames.
3. Select bulls from high producing dams.

The following officials were elected for the ensuing year: President, G. F. Ottman, Merlebeach; vice-president, Alfred Allen, Mason; secretary-treasurer, Dell Dawson, Sandusky; directors, J. F. Clemens, Bath; Geo. L. Rich, Paw Paw; Geo. T. Tuller, Battle Creek.

A. ALLEN, Sec. Michigan Guernsey Cattle Breeders' Association.

At the meeting of the Michigan Guernsey Breeders' Association, held at M. A. C., on January 12, the following officers were elected for the ensuing year: President, Mr. T. V. Hicks, Battle Creek; secretary and treasurer, Mr. A. M. Brown, East Lansing; first vice-president, Mr. Allen Kelsey, Lake View; second vice-president, Mr. J. H. Rosema, Freemont; third vice-president, Mr. George D. Edgeston, Parma.

The program consisted of the following: Words of welcome by President Snyder, a short talk by Mr. H. W. Wigman, of Lansing, and an address by Mr. C. L. Hill, of Rosendale, Wisconsin, on "What shall we look for in the Guernsey?" Mr. Hill outlined, in a very practical way, the essential points that go to make desirable Guernsey types making a particularly careful discrimination between those things that are not essential from the productive standpoint, and those that affect simply the beauty of the animal. He called particular attention to the high quality of the Guernsey milk, its marked flavor, and unusual high color. After the address Mr. Hill judged the college Guernseys in the live stock pavilion, going over the essential points in each animal with considerable care, and in the presence of a large audience. A. M. BROWN, Sec. Michigan Red Polled Cattle Breeders' Association.

The annual meeting of the Michigan Red Polled Cattle Breeders' Association was held Wednesday, January 12, 1910, in the new Agricultural Building, East Lansing, and was called to order promptly on time by President E. W. English. After the usual routine of business the election of officers was called for, which resulted as follows: President, E. W. English, Clarksville; vice-president, J. M. Chase, Ionia; secretary-treasurer, W. W. Woodman, Stanton; director, 3 years, Jas. Reynolds, Port Huron.

The meeting was full of enthusiasm, every number on the program being carried out as listed, and the paper by Mr. Reynolds, of Port Huron, "Judging Red Polls at the Fairs," brot out a lively discussion. The Association will ask the



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Garrett Mathias, Mathias, W. Va.: "It is worth two of the..."

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State Fair management to furnish them with a special expert judge, which they are entitled to as much as the Short-horns, the Jerseys or the Holsteins, as the Red Poll breeders showed the largest number of individual herds of any breed at the fair.

The paper by Mr. Chase, "Red Polls as Dairy Cows," was well prepared and showed some startling figures of high scoring cows. The paper, "Feeding and Care of Red Polls in Winter," by Mr. Ezra Brack, of Allegan, was to the point and brot out a lively discussion, as did the address of Prof. A. C. Anderson of M. A. C.

W. W. WOODMAN, Sec.
Michigan Duroc-Jersey Breeders' Association.

Owing to the lateness of several of the members of the Michigan Duroc-Jersey Breeders' Association in reaching M. A. C. on January 12, the meeting was postponed until January 13, at 9:00 a. m., at which time a very interesting meeting was held, consisting of the general order of business, payment of dues, etc. President C. H. Bray was elected to succeed himself, as was also M. T. Story as secretary and treasurer. After conferring with the other swine breeders' associations it was mutually decided to hold a combination sale at the M. A. C., in January, 1911, to which all breeders of the several different breeds are privileged to limited consignments, the college faculty kindly granting the use of their elegant new live stock pavilion for such purpose. Breeders desiring further information can obtain full particulars by corresponding with any of the secretaries of the several swine breeders' associations.

The best of feeling prevailed thru all the meetings, and the breeders were united in voting it one of the most interesting and profitable meetings held in late years. After inspecting the fine specimens at the college and having visions of the 9c hog in the near future, the breeders felt stimulated to go home and devote a little more time and energy to their sanitary surroundings.

M. T. STORY, Sec.

The Michigan Berkshire Association.

At the annual meeting of the Michigan Berkshire Association, held at the Agricultural College on January 12, the following officers were elected:

President, J. W. Hibbard, Bennington; vice-president, H. D. Burroughs, Mulliken; secretary-treasurer, C. B. Scully Almont; directors, Geo. Hupp, Birmingham; James Reynolds, Port Huron; C. D. Woodbury, Lansing; Bert Clark, Fenton; W. H. Schantz, Hastings.

The meeting was quite well attended and the boys seem to feel as any one naturally would when stock is high and there is plenty of call for it.

C. S. BARTLETT, Sec.

Michigan Poland China Breeders' Association.

The following officers were elected for the coming year at the Michigan Poland China Breeders' Association, held at the Agricultural College on January 12:

President, A. H. Foster, Allegan; vice-president, W. W. Woodman, Stanton; secretary, John C. Butler, Portland.

The meeting was well attended and much interest manifest. One of the important results of the meeting will be a combination sale at the college next winter, in which an invitation is extended to breeders of other breeds of swine to take part, no breeder to be allowed to put more than two animals in the sale.

A. H. FOSTER, Sec.

Michigan Oxford Down Sheep Breeders' Association.

The annual business meeting of this association was held in the New Agricultural Building at M. A. C., on January 12. The old officers were re-elected for the ensuing year, I. R. Waterbury being president, and B. F. Miller, of Flint, Mich., secretary-treasurer. The afternoon was taken up with an informal discussion of means by which the interests of the breed could be advanced in Michigan during the coming year, which resulted in providing for the listing of sale rams with the secretary in order to furnish buyers from the west with accurate information as to the available supply.

B. F. MILLER, Sec.

PREPARING FOR EMERGENCIES.

Even the most successful live stock breeder or feeder is sure to have emergency cases which require prompt treatment to save the life, or prolong the usefulness of some of his animals. While the veterinarian may be called, yet often he can not be secured promptly and it is the part of wisdom to have the stable supplied with a medicine chest containing

the standard remedies at least, which are advertised in every reputable farm journal, for use in cases of emergency. Quite often it will be found that the cases will yield to this emergency treatment and that the professional services of the veterinarian will not be needed. Of course, there are many cases in which the services of a skilled veterinarian will prove absolutely necessary, but there are a great many little ailments which ordinarily do not get treated at all which could be entirely relieved by judicious recourse to a well filled medicine chest kept in the stable for the purpose. The prepared remedies which will be found best adapted to such use will afford directions which will be a safe guide in their use. Not only in emergency cases, but in many chronic cases as well, will such a medicine chest be found to be of especial value, since often these chronic cases can be relieved or palliated to an extent which will not only make the animal more comfortable, but as well more useful or more profitable, as the case may be. The cost of equipping such a medicine chest will be small in comparison with the advantages to be derived from having it at hand when needed, and no man can tell when some one of the remedies which is should contain will be needed, or which of those that should be included in it will be needed first.

LIVE STOCK NOTES.

Missouri stockmen report a great falling off in cattle feeding as compared with recent years, while the hog supply is much smaller than usual. Stockmen who are in the habit of feeding from 200 to 300 cattle a year are feeding only 100 or even less.

Recently the average weight of the hogs marketed at Chicago fell to 209 lbs., the lightest seen in any week since early last April. Matured hogs have been closely marketed from most sections, and not enough are coming to packing centers to meet the pressing requirements of the packers.

L. F. Swift, the big packer, says the talk about high-priced beef is due to the great demand for the rib and loin cuts, of which there are only about 26 per cent of the total. The proper preparation and cooking of the cheaper cuts is being given attention by domestic science authorities, with a view of increasing the use of meat that is just as nutritious as the rib and loin cuts, thereby effecting a saving in the cost of living.

While the blizzards and snow storms, interspersed with extreme old weather, lasted, marketings of cattle and hogs dropped off to meager proportions, as owners foresaw large shrinkages in transit, and the railroads in many instances absolutely refused to accept consignments of hogs. As soon as the weather moderated and became mild there was a general scramble to move delayed stock, and for a time the Chicago market was so glutted with cattle and hogs that prices went down with a rush, buyers being in a position to dictate terms.

Maryland and Virginia buyers have been in the Chicago market recently in search of cheap stock steers for roughing thru the winter, grazing next summer, and finishing off in the autumn with some corn, marketing them when weighing around 1,250 lbs. Recently a Baltimore buyer picked up about 700 stockers that averaged less than 750 lbs. at around \$3.40 per 100 lbs. This is a kind of business engaged in yearly by farmers in Maryland and the Virginias, and they usually make it pay. There is seldom a time when medium and plain stockers cannot be purchased in the Chicago stock yards at comparatively low figures, the cheapest lots having sold recently at \$2.75@3, while feeders were selling at \$4.50@5.25, according to quality.

William Abel, of Illinois, who has large feeding stables, says he is feeding fewer horses this winter than in a number of years past, as feed is too dear to make the business a profitable one. He has been in the habit of buying his feeders in Minnesota, Dakota and Iowa, but reports good feeder horses much higher in price than usual and not offered at all freely by farmers. Hay that could have been bought last September for \$8 per ton, is now held at \$16. Farmers who feed horses have a great advantage over professional feeders, who rent stables and buy feed and bedding, as the farmer grows his feed and uses the manure for enriching his farm.

Exporters are not buying a great many cattle these times, as prices are too high to suit the foreign markets. South America has captured the British trade, and American exporters have become alarmed lest England lift the embargo and admit live Argentine cattle, as well as chilled beef. Should this step be taken, our live cattle exports to the United Kingdom would practically come to an end. The decline of American cattle exports is not surprising, as scarcely enough cattle are now grown for domestic meat requirements.

In discussing our foreign trade in cattle, the Drovers' Journal says: "As a result of the falling off in export trade many of the ocean liners have gone over to the other side carrying a great amount of dead ballast instead of live cattle, and the question of space rates has not been as severe as in former years. It is now claimed that two-thirds of the space available on steamers leaving Canadian ports is not contracted for, while Portland, Boston and Baltimore steamers, too, have contracts for only a small amount and have only short time contracts, and, in fact, some of the Atlantic lines are now willing to contract space from boat to boat rather than insisting upon ninety-day contracts, as was the case a few years ago."

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All I ask is for you to take the engine, try it free for sixty days on your own farm and if you are not fully satisfied with the engine and convinced that I have saved you money, return the engine to me and I will pay freight charges both ways and it will not cost you one single cent to secure the proof I offer.

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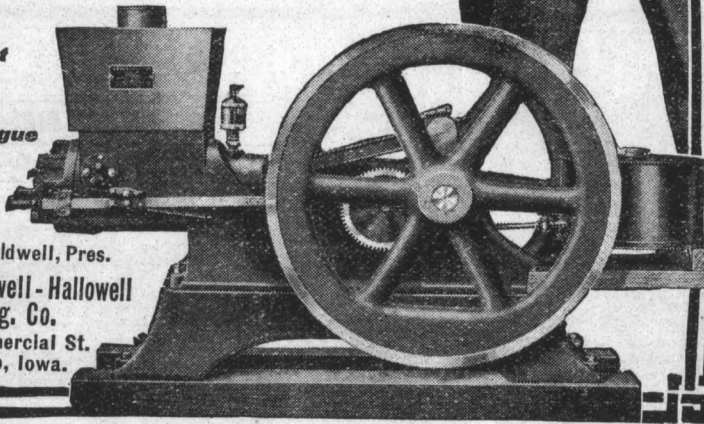
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If you are going to buy an engine I want to ask you to write for my free catalogue; compare my engine with any or all engines you know of, then put my prices along side those of others and see for yourself what I can save you.

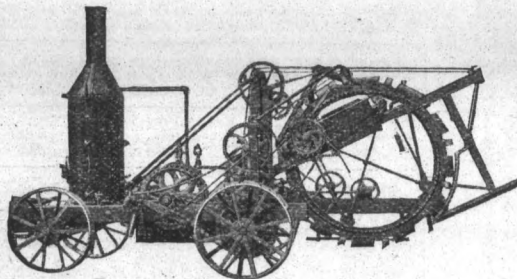
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No matter how hard you try you can't make an old stable with dirt floors and wood partitions sanitary—you can't keep it clean and sweet. Wood partitions rather dust and disease germs. Dirt floors with their tramped-in filth should never come within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

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then profits will not fall off. The cow that is best treated gives the most milk—the best milk—the richest milk. She has a heap of cow sense. She appreciates light and air, and she will see that you get your money back for making her home modern. If you will put a **Louden Litter Carrier** to work behind her, your boys or your man will clean the barns in less time and with less labor. We have been fitting up barns for 50 years. We will be glad to give you the benefit of this experience by suggesting what you need for yours, without any expense to you. Send for catalog, tell number of cows you have and submit rough sketch of stable. **LOUDEN MACHINERY COMPANY, 603 Broadway, Fairfield, Iowa.**



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and the guaranty is stamped right on the roofing. Notice that, please. And notice that the year in which you buy it is stamped right on as part of the guaranty. Every roll of Dickelman Extra you buy now must give perfect service, as specified in our guaranty, without painting, until 1925. If it doesn't, you get a new roof for nothing or your money back. You will also get our 15-year, signed guaranty on paper, for filing away and convenience, in case you need to hold us to it.

This means that your roofing expense simply stops for 15 years when you have laid Dickelman Extra Galvanized Metal Roofing. No doubt it will stop forever, as long as the building itself lasts—but for 15 years we are responsible. But that doesn't worry us. We know what 15 years of wear does to—

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After 20 Years Mr. Douglas Says:

Dickelman Manufacturing Co.,
Our mill is covered with your metal roofing furnished to us over 20 years ago. It is still in good condition. We think it is in nearly as good condition as when first laid. We believe we will get 8 or 10 years more of satisfactory service out of it, making an actual service of 30 years and over.
Very truly yours, J. C. Douglas.
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This Roof Will Last You 25 Years or Longer. Write Us For the Proof.

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For 25 years we have been making this roofing, just as we are making it today. Our oldest roofs seem just as good today as our 15, 10 or 5-year-old roofs—not quite so bright, that's all. Why should we be afraid of the next 15 years?

And why should you take chances on experimental roofings, or pay a high price for shingles or waste money on the ordinary metal sheeting when you can get the fine looking, inexpensive Dickelman Extra—with a 25-year record back of it and a 15-year guaranty ahead of it?

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The End of Every Roll is Turned—Ready to Make Connection and Crimp

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Have a fine lot of spring pigs, both sexes. The type for profitable pork production. Vigorous and strong and of best blood lines. Satisfaction guaranteed. F. A. BYWATER, Memphis, Mich.

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O. I. C. SWINE—Grandson of Chief, the World's Champion and Grand Champion O. I. C. Boar, heads my herd, he is also a grandson of Tutey, the World's Champion sow. I am sold out of spring and June farrow of both sexes. A. J. GORDEN, R. F. D. No. 2, Dorr, Mich.

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Poland-China Brood Sows, safe in pig. Also fall pigs and B. P. Rock cockerels. Prices right. ROBERT NEVE, Pierson, Mich.

POLAND-CHINAS—Spring and yearling sows bred for spring farrow. They are right and priced right. WM. WAFFLE, Coldwater, Mich.

POLAND-CHINA PIGS—Butler's Famous Wonders—Sept. farrow. Big, western type, big bone, long bodies, big litters. The farmers' hog. Pairs & trios. They'll make you smile. J. C. Butler, Portland, Mich.

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P. C. SOWS, bred—These sows are of great quality and breeding. A few choice S. C. B. Minorca cockerels. R. W. MILLS, Saline, Mich.

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VETERINARY

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

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

Cattle Lice.—Tell me what to apply to kill lice on cattle. S. S. H., Dor, Mich.—See remedy in this column.

Indigestion.—I have a colt coming two years old that has a rough coat and is inclined to gnaw boards. A. S. S., Summer, Mich.—Give your colt ½ oz. powdered charcoal, a teaspoonful of baking soda and a tablespoonful of ground ginger at a dose in feed three times a day. Feed him some vegetables.

Sore on Sow.—I have a brood sow that seems to be in excellent condition but is troubled with a sore on her back. Besides, the skin is scaly and peeling off. A. S. Brutus, Mich.—Apply one part oxide of zinc and three parts lard or vaseline to sore part once a day. If the parts are suppurating apply peroxide of hydrogen first.

Opacity of Cornea.—A film covers the eye-ball of one of my cows; besides, the eye is discharging a sort of pus. Our local Vet has treated her, but with rather poor success. N. H., Kent City, Mich.—Apply equal parts peroxide of hydrogen and clean water to clear the eye of pus, then blow some calomel into eye once a day, also apply borax aid once a day, after using the peroxide. Give 2 drs. Donovan's solution of arsenic at a dose two or three times a day.

Bruised Udder.—My cow has a tender bunch on udder as large as a fifty cent piece, that is quite tender to pressure. I have applied pine tar but doubt whether it helped it or not. M. B. W., Paw Paw, Mich.—Your cow bruised her udder. Dissolve ¼ lb. sugar of lead in a gallon of water and add 1 pint tincture of arnica and apply to bunch three times a day. Give four tablespoonfuls of Glauber's salts twice a day.

Septic Poison.—My cow dropped her calf on December 20, but has not done well since. I thought she cleaned all right at the time, but she walked as tho she was sore inside. Has a poor appetite and is only giving about one-half as much milk as she should. I purchased some hypo-sulphite soda and ground gentian and mixed it with feed, which she refused to eat. G. W. S., Milford, Mich.—Give two tablespoonfuls baking soda and four tablespoonfuls of Glauber's salts in a quart of water as a drench two or three times a day.

Garget.—One of my two-year-old heifers came fresh two months ago at which time she gave a large mess of milk. Some time later one side of her udder became affected, which has gradually grown smaller until now she gives very little milk. R. S. H., Paris, Mich.—The function of her udder may be somewhat destroyed so that she will never milk well from this one half of the bag. Give 1 dr. iodine of potassium at a dose in feed three times a day, also apply 1 part tincture iodine and 5 parts spirits camphor daily.

Stocking—Nasal Catarrh.—My 16-year-old horse urinates perhaps too often, one hind leg stocks, exercise reduces it, his appetite is good, is fed mixed hay and ear corn. Two six-year-old horses discharge at nose, cough some, both had distemper a year ago. J. S., Onondaga, Mich.—Bandage leg in cotton for a few hours after he has had a drive. Give 1 dr. iodine of potassium and a teaspoonful powdered saltpeter at a dose twice a day for 10 days, then a dose every day or two. Hand-rub swollen leg but don't apply irritating liniments or blisters. Give your other horses a dessertspoonful powdered sulphate of iron at a dose in feed two or three times a day for a week or two and apply one part peroxide-hydrogen and two parts water to nostrils once or twice a day.

Rheumatic Gout in Pigs.—Can you tell me the cause of stiffness in hind quarters of pigs 4½ months old? I am feeding six pigs one bushel of corn, three gallons of barley meal, and about 18 quarts of milk a day; their pen has a plank floor. Do you think that the corn has a tendency to cause this sickness? W. R. M., Atkins, Mich.—In addition to what you are feeding a few vegetables will help them. Also give the six pigs ½ oz. citrate of lithium and two tablespoonfuls of air slacked lime in their feed two or three times a day.

Liver Disease.—About three weeks ago one of my breeding ewes quit feeding and would stand in a position usually taken by a sheep upon rising in the morning, draw herself out as far as possible, drop her back and swing from side to side, would drink a little. Some ten days later she died. I opened her; the liver was dark colored, the gall was about 5 inches long, 2 inches in diameter. All my ewes are young and fat; I feed clover hay, corn fodder, good corn silage and occasionally a feed of wheat straw. What ailed the sheep that died and had my other sheep better be treated? C. C., Remus, Mich.—The sheep died as the result of an obstructed gall duct and your others showing no symptoms of disease require no treatment.

Weak Back.—I have a 20-year-old mare that is troubled with a weak back and is unable to get up without assistance. Our local Vet. tho she might have had colic which caused her to lie down and when down she bruised her head which has made her jaws sore. This mare weighs 1,500 lbs. and appears to be healthy. W. G. D., Kalamazoo, Mich.—Give 1 dr. ground nux vomica, 1 oz. fluid extract buchu and 1 oz. fluid extract of gentian at a dose in feed two or three times a day and apply spirits of camphor to back twice a day. She should be well fed, also

supplied with some vegetables. When on foot she should have some exercise and perhaps placed in slings for a few days to prevent her laying down.

Lice on Calves.—My calves are troubled with large black lice. What had I better use to kill them? R. C. C. Montague, Mich.—Put 5 ozs. of stavesacre seed in a gallon of hot water, boil it gently down to three quarts and apply to your calves and it will soon kill the lice.

Fits.—My two-months-old pigs are troubled with fits but soon recover. Am feeding separator milk and boiled potatoes, some raw beets and apples with a little sulphur. G. W. B., St. Clair, Mich.—Your pigs are perhaps not exercised enough. Epileptic fits are difficult to treat for it is always somewhat of a guess to know the exact cause; it may be the result of too much food, a torpid liver, parasitic stomach or bowel trouble or some food impurities which are exceedingly difficult to understand. Give each pig a dessertspoonful, or perhaps a tablespoonful of castor oil twice a week, also give each pig three or four grains of bromide potash at a dose in feed three times a day.

Uneven Teeth.—I have a horse that is 18 or 20 years old, a good worker, but thin. He is fed as well as my other horses and they are all fleshy. I had his teeth dressed last spring, fed him worm medicine and condition powders and prepared salt. None of these remedies have helped him. W. H. A., Fennville, Mich.—I am inclined to believe that his teeth may need a little more attention, or they may be in a condition making it impossible for him to masticate food properly. If this be true you shall have to feed cut fodder and ground grain. Also give a tablespoonful of powdered cinchona and a tablespoonful of baking soda at a dose in feed three times a day.

Lice.—One of my horses is troubled with lice; one of my neighbors tells me they are hog lice. I have applied kerosene and other disinfectants without results. Now I would like to know what will kill them without injuring the horse. J. D. M., Pierson, Mich.—Put 4 ozs. of crushed stavesacre seeds in a gallon of boiling water and keep it simmering for an hour or two, then pour what is left thru a cheese cloth and fill with water, making the original quantity one gallon, then apply once a day. This will kill the lice. For safety apply some of the same medicine every ten days for thirty days. Remember, that lice may be on your brushes, or curry combs or about your stable, if so, apply one part carbolic acid and 30 parts water, also whitewash stable, using fresh lime to make the mixture.

Sore Shoulders—Tender Shoulders.—I have a horse that I bot last summer that has been troubled with sore shoulders ever since, notwithstanding I have applied nearly all kinds of salves and gall cures, but have not yet succeeded in healing his shoulders. I would also like to know what to apply to a colt's shoulders that will toughen them? V. V. O., Pentwater, Mich.—The wounds on shoulders must now be malignant. Burn the raw surface lightly with a red hot iron, or stimulate it with crude carbolic acid or nitrate of silver a few times then apply peroxide-hydrogen and ten minutes later apply equal parts oxide of zinc, calomel and tannic acid. To toughen tender shoulders dissolve ½ lb. sugar lead, 3 ozs. sulphate of zinc, 3 ozs. of tannic acid in one gallon of water and apply to shoulders two or three times a day, and I might add if horses with tender shoulders were treated 10 or 12 days before they are put to work in the spring and an application of this kind used while they are working, most cases of sore shoulders would be avoided.

Pneumonia.—I have some fall pigs that I am anxious to know what ails them. During the past six weeks one quarter of my drove of fall pigs have died. Our Vet. tho they had bronchitis; others tell me they have tuberculosis, while others believe it to be cholera. They are in a thrifty condition up to within three or four days of their death. I examined two of them after death and the only organs I tho diseased were the lungs and during their sickness they show symptoms of lung trouble. P. S., Pewamo, Mich.—If your hogs died of hog cholera or swine plague their bowels, kidneys and lungs would show an unhealthy condition, especially the bowels. I am most inclined to believe they die of bronchial pneumonia and advise you to have your Vet. treat them for it. They should be kept in a dry, warm comfortable pen that is kept clean.

Sweeney—Scours.—Have a mare that suffers from sweeney; she recovered from the lameness but shoulder is shrunk away. I also have a mare 20 years old that scours at times without any apparently good cause. W. J. W., Crosswell, Mich.—Blister shoulder with cerate of cantharides or use any other good blister once a week. Seatons inserted under the skin and left in for six weeks produce good results.

Bronchitis.—I am having a lot of trouble with my 12 to 18 weeks' old pigs. They show symptoms of asthma and choke up as tho they had quinsy. It is hard work for them to breathe; poor appetite; their "squeal" sounds like the cry of a baby, and eventually they die. This disease seems to be contagious among the young pigs but not among the old ones. A. M. S., Algonac, Mich.—I am inclined to believe that your young pigs suffer from bronchitis which, of course, is not a very common ailment in the pig, but I have frequently been called to treat cases of it in shoats from six to twelve weeks old and strange to say it is very often fatal. It is said that an excess of ozone in the atmosphere causes it, which brings on coryza and laryngitis in pigs. Treatment. In the early stages give a small teaspoonful of epsom salts to clean out the stomach and bowels. If feverish, give two or three drops tincture of aconite, also give one grain calomel once a day for three days. Apply mustard and water to chest and sides daily and if the pigs show weakness give eggs and milk with some whiskey added. Another very good stimulant is carbonate of ammonia given in 5 or 10 grain doses. If they cough much give 10 or 15 drops syrup of squills three or four times a day.

INSOMNIA

Leads to Madness, if not Remedied in Time.

"Experiments satisfied me some 5 years ago," writes a Topeka woman, "that coffee was the direct cause of the insomnia from which I suffered terribly, as well as the extreme nervousness and acute dyspepsia which made life a most painful thing for me."

"I had been a coffee drinker since childhood, and did not like to think that the beverage was doing me all this harm. But it was, and the time came when I had to face the fact and protect myself. I therefore gave up coffee abruptly and absolutely, and adopted Postum for my hot drink at meals."

"I began to note improvement in my condition very soon after I took on Postum. The change proceeded gradually, but surely, and it was a matter of only a few weeks before I found myself entirely relieved—the nervousness passed away, my digestive apparatus was restored to normal efficiency, and I began to sleep, restfully and peacefully."

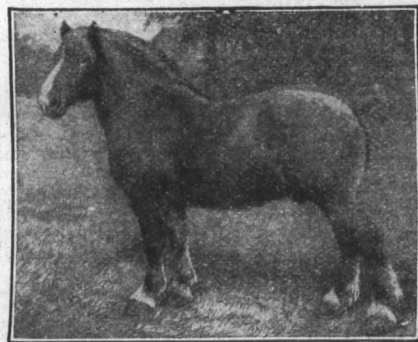
"These happy conditions have continued during all of the 5 years, and I am safe in saying that I owe them entirely to Postum, for when I began to drink it I ceased to use medicines." Read the little book, "The Road to Wellville," in pkgs. "There's a Reason."

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

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The Best in Barred Rocks, White, Silver and Golden Wyandottes, R. C. and S. C. White, Brown and Buff Leghorns, Silver Spangled Hamburgs, White Guineas \$1 each in lots to suit. Bronze, Buff and White Turkeys, all varieties of Geese and Ducks, largest and best collection at State Fair in 1909. **E. J. HASKINS**, Pittsford, Mich.

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POULTRY AND BEES

IS THE INCUBATOR PRACTICAL?

A subscriber wants to know whether I still use my incubator in hatching chickens. He recalls my writing about purchasing one some years ago, and wonders if I still use it and consider the machine practical for a farmer to own. In answer will say that I still use the incubator, not only one, but two, and that I think more of them every year I use them. I have no desire to go back to the old way of hatching chickens under hens. As I explained two years ago, I never want any more of that experience. Of course, it must be understood that I never advocated the use of an incubator where a man wants to raise just a few chickens. But I believe, so far as I am concerned personally, that if I didn't want to raise more than 50 chickens in a year, I would still have an incubator. I could then hatch the chickens all out at once, raise them all together and be thru with it. Altho I'll admit that it is not a difficult matter to raise 50 or 60 chickens with hens. You have to set comparatively few hens to raise this number, and if the hens are given a coop or pen by themselves and are set at the same time, they can all be cared for at the same time, and thus a few chickens can be raised without very much trouble. But when one wants to raise 100 to 200 or more chickens, the proposition of hatching them with hens, and having the hens care for them, is a serious one, at least I consider it so, and I had practical experience along this line for two or three years before I purchased my first incubator. I repeat, I do not care to go thru this experience again.

If one expects that every egg put into an incubator is going to hatch out a good strong chicken that will live to maturity, he is doomed to disappointment, because it will not. If one-half the eggs which a man puts into an incubator hatch out good strong chickens, which he rears, I consider that he is having first-class success. If you will keep track of the eggs that you put under sitting hens, when you attempt to raise 50 to 100 chickens in a year, you will be surprised to find how many eggs it takes to get 100 chickens. If you don't have to set more than 200 eggs to get 100 chickens that are strong and healthy and that you can raise, then you can do better in the chickens business, on the average, than I can. Some years it will taken even more than this, and so it is with incubators. If 60 to 75 per cent of the early eggs prove fertile, you are doing pretty well. If 50 per cent of these hatch good strong chickens, you are doing well. Then you have to figure on quite a per cent of the chickens dying, whether they are out with hens or are kept in brooders.

Mortality Not Greater But More Noticeable Under Artificial Method.

Now, when we begin to raise chickens with the incubator, practicing artificial incubation and artificial brooding, we keep track of all the losses, but when we hatch them under hens we do not keep track of all the eggs, nor do we keep track of the mortality among the chickens. The chicks are left largely to hustle for themselves; many of them die and we pay little attention to it, taking it as a matter of course, but when we come to use the incubator we begin to count losses in percentages, and we find that they run amazingly high sometimes. After we have figured the matter over carefully, and have taken everything into consideration, we see that our losses with the incubator are probably no larger, if as large as they are when hatching in the natural way.

Now I prefer artificial incubation to the natural method for many reasons. In the first place, an incubator is very easy to operate. You get it warmed up so that the temperature stands at about 103 degs. and then put in the eggs. Now about all that is necessary is to visit the machine once a day or twice a day, fill the lamp, trim it so as to have a uniform blaze, and then shift the trays each day and turn the eggs. I believe shifting the trays is of more importance than turning the eggs. As a matter of fact, I have come to believe that turning the eggs is of little importance; really I don't believe that it makes any difference. In other words, I think the chickens would hatch just as well if the eggs were not turned over, but it is important to change the position of the trays, because the incubator may not be just as warm in one corner as it is in another, and if you shift the trays every morning, and turn them end for

end each night, all of the eggs will receive the same amount of heat.

The best place to keep an incubator is in a cellar. What you want is some place where the temperature will be quite uniform. If you have it in a back room of the house, when the weather changes the temperature of that room will change very much and then the temperature of your eggs will change, because it is almost impossible to govern the flame of the lamp so as to have the same temperature during the middle of the day, when the room is warm, and in the night, when it is real cold, especially when a fierce wind is blowing. Anyone can readily understand this; but, on the other hand, if you have the machine in the cellar, perhaps in a room partitioned off on purpose for it, the temperature of that room will change but little during the 24 hours. Consequently when you get the flame of the lamp regulated so that it will hold the temperature at 103 degs., you need not worry very much about the temperature. It will be almost constant. And if the cellar is not very well ventilated, or if it is a little damp, do not be afraid. As a matter of fact, I think that if the cellar is a little damp it is better than to have it perfectly dry, because, with the artificial heat, the eggs are inclined to get dry, and if the atmosphere surrounding the incubator is a little damp, all the better.

When the chicks begin to hatch, or the eggs to pip, as it is called, one must watch the temperature of the machine a little closer, because the heat generated by the living chickens, in connection with the artificial heat from the lamp, will give a temperature above 103. It is all right to have the incubator good and warm, say at 105 degs., when the chickens are hatching, but do not let it go above this. If it gets above 105, open the vents so that the hot air will escape. If it gets very much above 105 the chicks will suffer.

After the hatch is over, do not be in too big a hurry about removing the chickens. They do not need any feed for 36 to 48 hours. Leave them in there, where they are warm. Do not attempt to water them. It won't matter if the incubator is a little dark; leave the chicks there for at least 36 hours; then when you take them out you must be sure that the brooders are at a temperature of 100 degs. It is sudden changes that raise the mischief with young growing chicks. Use, if possible, a room that is not influenced by outside temperatures. Then you will have little trouble in controlling temperatures, and you will have good hatches if the eggs are fertile. If they are not fertile, they will not hatch in an incubator any more than they will under hens.

COLON C. LILLIE.

THE STATE POULTRY SHOW.

The class of poultry seen at the annual show of the Michigan State Poultry Association, held in Detroit last week, was certainly a credit to the breeders of this and adjoining states and to the industry in general. Detroit has never seen its equal as an exhibition of high-class, practical, common-sense poultry. With the exception of a few bantams, there was scarcely a fowl, among the more than 800 which filled the main exhibition room, that would not help mightily in improving the poultry stock upon almost every farm in this state. It is true that in the breeding of many of these fowls fancy points had been given close consideration, but they were not fanciers' fowls. They were the representatives of the various breeds of practical, useful poultry bred to the highest perfection.

The show was well handled, the orderly grouping of breeds and classes giving a favorable general impression at once, while a closer study of the exhibits brought recognition of their uniformly high quality and superb condition. If such a show of poultry may be regarded a fair index to the standing or popularity of the various breeds with enterprising and thoroughly up-to-date poultrymen, it would seem that the so-called general purpose breeds are steadily gaining on the special egg and meat breeds. At any rate it is interesting to note that in this show the representatives of the American class considerably outnumbered those of the Mediterranean or Asiatic classes. Despite the occasional prediction that the old Plymouth Rock is declining in popularity, this breed led by a good margin at last week's show, the more than 200 entries constituting approximately one-fourth of the show. The barred class contained 90 fowls and was regarded a very strong one. The buff and white varieties followed with 55 and 47 entries respectively. The Wyandottes were next strongest with 170 representatives, the comparatively new Columbian variety leading with 69 fowls entered. Next came the R. I. Reds with 118, closely followed by the Leghorns with 113. The Orpingtons were next with a total of 60, and then followed Minorcas, Cochins, Hamburgs, Langshans, Polish, Houdans, Anconas, Blue Andalusians and Sicilians in the order named.

Dr. Pierce's Favorite Prescription

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which contains no alcohol and no injurious habit-forming drugs and which creates no craving for such stimulants.

THE ONE REMEDY

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It is sold by medicine dealers everywhere, and any dealer who hasn't it can get it. Don't take a substitute of unknown composition for this medicine OF KNOWN COMPOSITION. No counterfeit is as good as the genuine and the druggist who says something else is "just as good as Dr. Pierce's" is either mistaken or is trying to deceive you for his own selfish benefit. Such a man is not to be trusted. He is trifling with your most priceless possession—your health—may be your life itself. SEE THAT YOU GET WHAT YOU ASK FOR.

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THE ADVANTAGES OF CHAFF HIVES FOR BEES.

By chaff hives is meant hives having double walls with a packing space between to be filled with some kind of porous material, such as wheat chaff, cut straw, forest leaves or planer shavings. Best of all, in my opinion, is good dry wheat chaff. Never use oat straw or chaff as it draws moisture and thus defeats the object of the chaff hive, which is to keep the bees warm and dry.

Have not less than a four-inch packing space on the sides. Overhead it should be a foot at least, and half filled with packing. In such a hive bees will winter safer out of doors than in. When spring-time comes, with its rapid changes from warm sunny weather to cold nights or cold rains and even snow storms, bees in chaff hives will build up steadily, while often those in the single-walled hives dwindle away until what was a populous colony, when first set out, becomes a mere handful of bees, an easy prey to prying robbers.

Why this difference? Simply that the chaff hive, with its double walls and packing, does not feel these rapid changes of temperature, the inside temperature varying very little, be the weather what it may outside. Single-walled hives on the contrary, are affected by every little change of temperature. At the first rays of warm sunshine, out the bees come, often only to be chilled or frozen by the cold winds. Only settled warm weather will bring out those in the chaff hives to any extent.

Again, being protected from the cold nights and raw, chilly weather, the bees do not need to cluster so closely and consequently a given number of bees will take care of almost double the amount of brood as will the same number in the single-walled hive. This of itself is a mighty big factor in their rapid upbuilding in the spring.

When the first honey flow comes on the bees in the chaff hives are ready for it. So are a part of those in the single-walled hives, but part of them are not. We may put the supers on those that are ready, at the same time as we do those on the chaff hives, but we do not expect to find the bees doing good work in them for perhaps a week later, on an average, than those in the chaff hives. Why? Because, while those in the chaff hives can work in the super all night, drawing comb and so forth, those in the single-walled hives are obliged to go below, as soon as it cools off in the evening, to take care of the brood lest it chill.

When the great rush of honey making is on, and we are having hot weather night and day, there seems to be little difference. The single-walled hives are apparently storing as much honey as any of them. When the chilly nights begin to come, however, along with the buck-wheat flow, the chaff hives forge ahead again, usually producing (if run for comb honey), about twenty pounds of honey per colony, on an average, more than the single-walled hives. This item alone will nearly, if not quite, cover the extra cost of the hive the first season.

When running for extracted honey the difference is a trifle smaller, but the same advantages are there in a slightly lesser degree.

Mecosta Co.

L. C. WHEELER.

A correspondent of one of the leading bee journals is authority for the statement that more than 100 growers of hothouse cucumbers in Massachusetts have found it necessary to keep bees in their buildings to "set" or fructify the cucumbers. Over 1,000 colonies are now being used in this way and in most cases it has been found necessary to replace these colonies each year. This has created a steady demand for bees, and the benefits derived have been so apparent that this demand promises to grow. At present, however, an earnest effort is being made to determine if possible, why colonies thus kept in hothouses are short lived, since the necessity of replacing them almost yearly is not only very expensive but seems a great sacrifice of the industrious little insects.

The annual meeting of the Michigan State Bee Keepers' Association will occur at Hotel Wentworth, in Lansing, on Wednesday and Thursday, Feb. 23 and 24. Beginning with Wednesday morning, five sessions will be held, the business session and election of officers occurring the first day. Details as to program and prizes offered for exhibits of apian products will be given later. Mr. E. B. Tyrrell, of Detroit, is the Association's secretary.

YOU CAN MAKE \$1,500 to \$2,000 Per Year



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I, Chas. E. Cessna, President of the Santa Rosa Plantation Co., promise and agree to return to any purchaser all moneys paid in to our company for land purchased by him, if the said purchaser finds that within ninety days after purchasing same, that said land is not exactly as represented by me or the Santa Rosa Plantation Co.

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The soil is a deep, black sandy loam, which will raise enormous crops of all kinds of fruits and vegetables, corn and other crops. You can always raise two and three crops each year on the same land. Crops never have been known to fail. There is ample rainfall every season. You never have to irrigate.

You can raise Oranges, Grape-Fruit, Peaches, Pears, Pecans, all kinds of Berries, Irish Potatoes, Sweet Potatoes, Cabbage, Beets, Beans, Celery, Melons, Tobacco, etc., etc. These crops pay from \$200 to \$1,000 per acre, each year. You have good markets and high prices for all crops. You can quickly have an orange grove worth from \$1,000 to \$2,500 per acre. Can you afford to miss this opportunity for yourself and your family?

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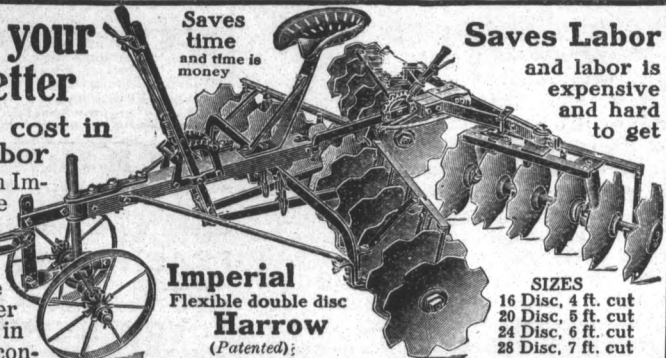
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HORTICULTURE

FRUIT GROWING IN OCEANA COUNTY.

Those of us who attended the state fair at Detroit, the West Michigan fair at Grand Rapids, and at other places, and saw the fine display of fruits of various kinds, from Oceana county, must feel a special interest in that county, and must be desirous of knowing something of the conditions under which fruit of such fine appearance and quality is grown. While other counties in our state may be able to produce as good fruit, the fact remains that no other part of the state is the home of such enterprising fruit growers who are willing to make the effort to show their goods, and make as fine a display of fruits, as have the fruit growers of Oceana county. To those who have only seen Oceana county on the map, and formed the opinion that it is an unimportant strip of country just up in the "neck of the woods," I will say that they have formed an erroneous impression, as a visit to that county, and studying its capabilities, will prove to them.

It was my privilege to attend the one-day farmers' institutes, as lecturer, the present year, and by riding over the county in circuitous routes, I had an opportunity to see this veritable Eden, (land of delight), for fruit and beauty of scenery in its most delightful form. It was during the last days of November and the first days of December, when nature had stripped the trees of their beautiful foliage, and had put on the somber appearances that are concomitant to Indian summer, preparatory to being wrapped in a blanket of snow for the winter slumber.

The surface of the country is generally hilly and undulating, and the scenery is never monotonous, but constantly changing, while on the ridges where there is more or less heavy soils, there is an opportunity to look across the stretches of fine country, dotted with farm houses and barns, with extensive orchards that are the pride of the country. It is not alone apples and peaches that are grown in great quantities, but there are many hill-tops and hillsides that are planted to cherry trees, and the level bottoms planted to plum trees. The latter fruit has not yet been given the important place among the fruits that it deserves, as it is always a popular fruit with the consumer, and with the canning facilities at hand, many more plums can be raised and put on the market. Strawberries grow to perfection and are easily raised. Both black and red raspberries do well and are profitable. There is not much said about pears. Gooseberries grow to perfection, are very productive and profitable.

The soil of Oceana county is largely sandy loam with a liberal percentage of sand. It is a warm soil that yields up the moisture and plant food, readily, and causes a rapid growth of trees, vines or plants of any kind. The ameliorating influences of the great body of water to the west, Lake Michigan, regulates the temperature and shields the fruit blossoms from the frosts in the early part of the season.

While the corn crop, as a grain crop, is not given much prominence, other general crops, such as wheat, rye, oats, barley, peas, beans and potatoes, are grown with success. One of the serious problems confronting the farmers is maintaining a sufficient amount of humus in the soils. The pea crop is grown successfully and will help very materially if properly handled. The crop is cut while the peas are green, run thru a machine called pea viner, the peas are taken out and sold to the canning factory, and the vines are cured for hay.

One source of income, as far as fruit and other crop growing is concerned, is selling much fruit and other crops to the canning factory. A large canning plant at Hart, the county seat, during the season just closed canned 5,410 cases of strawberries, 346 of black raspberries, 750 of red raspberries, 1,156 of gooseberries, 410 of sweet cherries, and 7,342 of sour cherries. They canned 698 bushels of plums, 6,962 bushels of peaches and 8,000 bushels of apples. They bot the peas from 4,500 acres, white beans from 1,500 acres and sweet corn from 3,000 acres. They put up 500 tons of pumpkins, and 1,186 cases of red kidney beans. They paid to the farmers and help \$1,200,000.

Besides selling to the canning factory, there are large quantities of fruits of various kinds sold to go to distant markets. Much of the fruit is yet sold to specu-

lators who come from the large western cities, buy by the lump, so it is called, and take the entire crop. Better methods of handling and selling the fruit will undoubtedly be adopted in the future. The prices obtained for the fruit of such excellent quality, both in appearance and palatability, has not been the present season, up to more than two-thirds the prices that have ruled on the eastern side of the state. The art of marketing at the full value of the product should be acquired, as well as the art of producing a first-class article.

Wayne Co.

N. A. CLAPP.

RASPBERRIES AS AN ORCHARD CROP.

In the spring of 1906 we set out a quarter of an acre of black raspberries, and three-quarters of an acre of reds in a part of an orchard of mixed apples and peaches set the spring previous. The trees were set 18 feet each way, peaches alternating with the apples. Two rows of raspberries were set between the rows of trees, and a row between the trees in the row, or rather a half row, as only half as many plants were set in this row so as to avoid crowding the trees.

The cost the first season, including \$15 for plants, was \$22.35. This also included the cultivation of the trees in the patch.

The second season the cost of the patch was \$24.77. This included the setting of cedar posts and stringing of a wire along the rows of blacks, also the harvesting of 222 quarts of berries. These sold for \$19 net, leaving a net loss of \$5.77 for the year, and a net loss of \$28.12 for the two seasons.

The third season the cost was \$40.71, including the hauling of eight loads of ashes and ten of manure, the stretching of another wire, and two sprayings of the blacks. Nine cultivations were given and the reds were hoed once, and the blacks four times. Cost of picking and packing and crates are also included. 524 quarts of berries were sold, netting \$67.20, which left a profit for the season of \$26.49, and a net loss of \$1.62 from the beginning.

The fourth season the cost was \$97.47, including one spraying, and \$77.32 for harvesting and packages. The crop of about 1,600 quarts sold for \$185.21, leaving a net profit for the season of \$87.74, and a net profit from the beginning of \$86.11.

These figures include the cultivation and hoeing given the trees in the raspberry patch, but not the pruning, spraying, and other operations performed upon the trees. Thus it will be seen that the raspberries have paid for themselves and the land they were grown upon in four years in addition to paying for the cultivation of the orchard. The trees in the raspberry plot have cost, during the five seasons they have been set, \$62.37 aside from the cultivation, which would leave a net profit of \$23.74 to the credit of the acre of raspberries after paying for the orchard. If interest on the investment in land, trees, and plants are computed it will still leave the account a little on the right side.

It might be mentioned that the second crop, (third season from setting), was not what it should have been on account of a hard winter which froze the canes back considerably, and a dry summer which cut the blacks short. The last season both kinds had a good crop, but of course, the trees, especially the peach, have become large enough to interfere considerably. The berries should really have come out this year, but we are keeping them another year, as the peach trees are going out with the yellows, and the raspberries do not seriously interfere with the apple trees yet as the canes are kept cut back to six feet or more from the trees.

Of course, the trees make cultivation a little more difficult, and render more hand work necessary, and the canes interfere with the spraying and harvesting of the peaches. However, the rows are long and we can drive down both sides of the patch and reach the trees with a long line of hose without driving on the berries. I would not, however, advise the growing of raspberries in a young orchard if other space is available. If only apples are to be grown it will do very well, and if the plants are set when the trees are two or three crops can be harvested before they will interfere seriously with the trees, but there will be disadvantages in caring for them and for the trees. Of the small fruits I would prefer strawberries for the young orchard. We now have about 2½ acres of strawberries in this orchard, and may give some figures on them at a later date.

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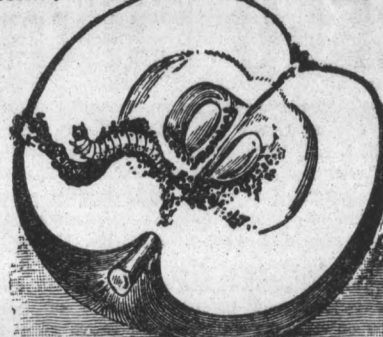
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SWEET POTATO QUERIES.

Growing the Plants, Soil, Culture of the Crop, Etc.

Will some one please describe the culture of sweet potatoes, growing the plants, etc.? Would like description of the work in detail.
Oshkemo, Mich. J. A. T.

In the culture of this crop the plants of course, are the first consideration and that they be vigorous and healthy is of the highest importance. They can be obtained ready for transplanting, of many of the salesmen, as also special growers. They can also be grown in hotbeds at home and this latter way is perhaps preferable to buying and shipping from a distance.

While they may be grown either under glass or canvas, we believe for the inexperienced grower, the latter is the safer plan as they are less liable to burn and doubtless make hardier stock than that grown under glass. The hotbeds are prepared the same as for ordinary work except that more soil is required and consequently the beds should be deeper than otherwise as more space will be required between the heating material and cover, whether it be glass or canvas. Prepare the hotbeds in the usual way and cover the heating material not less than three to four inches in depth with good friable soil; but in no case use that which will bake, either for first or second covering. Put on the covers and let remain until the heat can be steadily held at about 70 degrees. When ready to lay the tubers, place them on their sides and so they will not touch, say an inch apart and cover with three inches or more of soil. The temperature should be steadily held at about 70 degrees, and any considerable rise above that must be checked by airing the bed. Any fall below the required standard may be remedied by placing fresh, hot manure around the bed, or a light covering of straw or leaves may be used on top of the tubers until the plants begin to show thru the soil which will be in a week to ten days, when the extra covering should be removed. Probably three to four weeks or a little more, will be required for the plants to make good growth, when the tubers are taken out and they are carefully pulled off. They can then be replaced and a second crop of plants can be grown if desired.

The canvas covers are so inexpensive and so serviceable that a few suggestions as to making them will be useful. The frames are made three feet wide and same length as hotbed is wide. Take inch by two stuff, halve the ends and nail together with wire, lath, or shingle nails clinched. Place a cross piece of the same material in the center and toenail the ends to side rails. Take heavy weight sheeting and stretch over the frames and tack to sides. The yard wide cloth will give sufficiently to lap over and give ample space for tacking to sides of frame and it must be stretched tightly as possible else it will sag. After the sheeting is tacked on, paint the covers with two or three coats of the following solution: One thoroughly beaten egg to a pint of raw linseed oil. Let one coat dry before another is applied and keep it well stirred while applying. When dry they are ready for use and will be safer for these plants than glass covers.

Heavy, retentive soil will not grow good sweet potatoes, either in quality or quantity, and it is hardly worth while to attempt their culture under such conditions. Select rich, sandy land, or even light soil provided it is well fertilized. There is much diversity of opinion as to fertilizer but it is pretty generally conceded that well rotted stable manure is best. It should be plowed down in liberal quantities and if available, a generous top dressing of wood ashes will greatly benefit the crop. A high grade fertilizer bearing a heavy percentage of potash will perhaps do equally as well as the ashes; but it will pay to use one or the other. The ground requires thoro fitting and is laid off in ridges three feet apart, and the plants are set two feet on the ridge. Set on freshly worked soil and see that it is well firmed about the plants to prevent the air from drying out the roots. The ground should be thoro warm before setting the plants and mid-May or a little later is early enough in this latitude.

The culture should be thoro and frequent but shallow, and when the vines begin to run they will have to be turned over and moved out of the way of the cultivator. The turning and moving is also necessary to prevent setting and forming tubers along the surface of the ground. In harvesting, the vines are mowed off and make excellent and much relished fodder for stock. At the above given

distances it will require about 9,000 plants to the acre, and as stated above they can be bot, ready for setting, of the seedsmen or the tubers for growing the plants can be obtained from the same sources. The Early Yellow Jersey is probably the best and most reliable variety for this climate.
Wayne Co. J. E. MORSE.

GROWING ONIONS AND BEETS.

I have some low ground that was broken up last spring and put into corn for fodder which grew to be 10 and 11 feet high. The soil is black loam with a blue clay sub-soil and is well drained. What I want to know is would it pay me to put some of this ground to onions and beets, as I see the market is good for same?
Montcalm Co. E. A. SMITH.

Such land as you describe is usually considered to be extra good for onions, but it is not given to all to make a profit out of raising onions. They are a special crop that requires special knowledge to grow big crops. The market, your experience, and your facilities for growing in sufficient quantities, are factors that must be taken into consideration. You must have special tools in order to work the ground properly and economically. Unless you are going into it for more than one year to make something of a business of it, I would rather stick to staple crops that I had had experience with, rather than to go off onto a new crop like onions for a single season.

This sort of soil is generally not considered good for sugar beets because, while they will naturally grow large, the sugar content will be small. In growing beets we want a good tonnage, but we want beets to test 15 to 16 per cent on the average and they are not considered a profitable crop unless they do. Rich, mucky land usually grows extra large beets and extra large tops, but as said above, are quite deficient in sugar. Even table beets grown on this ground would not be of as good quality as grown on a drier and more sandy soil. They would be rather coarse in quality.

USE FOR OLD FRUIT CANS.

Old tin cans may be used for transplanting tender plants in the spring. Melt off the ends and side seams; then they will have to be held together by tying a string around them. Fill the cans with soil, plant the seed of melons, cucumber, etc., in them and set the cans in the hotbed or a warm place in the house. Allow them to grow, thus protected, till it is warm enough for the plants to thrive in the open ground, then set them where they are wanted to grow, cut the string and lift the can out leaving all the soil. In that way the roots are not disturbed, and the plants grow as if they had been first planted where they were to grow. One should be careful not to remove the plants directly from a warm hotbed without allowing them to be hardened to the outside air by leaving the sash or cover off on warm days for some time before the plants are taken out.
Missouri. H. F. GRINSTEAD.

KEEP INFORMED.

With a score of concerns claiming their individual goods the best, with agents using every art and artifice to persuade prospective purchasers to give orders, the men who have no opportunity to study the different grades of fruit trees and plants offered, become confused. Information is welcome at such a time. But the only, or at least the usual way whereby some men are able to get knowledge of the new creations and importations annually lauded by those whose business it is to sell such goods, is to first learn what the sellers have to say about them. Beyond this it is usually impossible to go for a while, because, being new, experience therewith is lacking; but the seller's claims are a good nucleus to add later acquired knowledge to, and upon this basis we believe every person interested in fruit or vegetables should look thru the annual catalogs of different concerns if for nothing more than to be conversant with the new innovations.

Popular Fruit Growing, by Samuel B. Green, Professor of Horticulture and Forestry in the University of Minnesota. This book covers the subject of fruit culture in a most thoro and practical manner. The great growth and wide specializing in fruit growing has led to the increase of troublesome pests. This subject is explained so carefully that a painstaking grower can quickly recognize the presence of these pests in their formation and check their injuries by applying the methods of extermination so minutely described in the chapters "Insects Injurious to Fruits." Each subject is treated in a most exhaustive manner, every phase of fruit growing is considered from a practical standpoint and the very latest ideas and methods outlined and discussed. An abundance of new thots has been crowded into these pages and many special drawings and illustrations are used to more clearly explain the author's methods. Fully illustrated, 300 pages; 5 1/2 x 7 inches. Price, \$1.00. Webb Publishing Co., St. Paul, Minn.

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- 1 package Poppy, double, mixed, 5c.
- 1 package Coreopsis, mixed, 5c.
- 1 package Phlox Drummond, mixed, 5c.
- 1 package Pansy, mixed, 5c.
- 1 package Bachelor Buttons, 5c.

The above ten packages by mail postpaid for 10 cents in coin, together with our handsome calendar and our profusely illustrated catalogue for 1910. With the above collection we will enclose a certificate worth 25 cents. If returned with \$1 you may select seeds in packages of ounces to the value of \$1.25.

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DETROIT, JAN. 29, 1910.

CURRENT COMMENT.

Some interesting developments have followed the declaration of a boycott on meat which started some ten days ago in Cleveland and has spread rapidly to various sections of the country. Secretary Wilson has announced his intention to publish a bulletin showing that the advance in the prices of meats during the past year has not been due to any similar advance in the price of live stock, for which reason the increased cost of meats can not be charged to the farmer or to any increased profit the farmer has reaped. Another result has been the ordering of a long talked of prosecution of the meat trust by the Federal Government in which the alleged combination of interests will be thoroly sifted. Congress has also put in its oar by reporting out of committee a bill providing for the enumeration, at the coming census to be taken this year, of all cattle, calves, sheep, lambs, hogs, goats and kids slaughtered, and also providing for a full census for the hides of such animals to show the relation between the numbers and prices and to determine whether these products are under the control of any combination to affect market prices.

Incidentally also, the agitation has had the effect of lowering the market price of practically all classes of live stock in the big market centers of the country, with the probable result that shipments will become restricted during future weeks. Another natural consequence has been a slump in the price of provisions. It has been generally conceded that the provision market has been maintained at a range of values not warranted by the price of hogs and the effect of bringing down the provision market to a level which would increase consumption was mentioned in our first comment upon this situation as the only feature of encouragement which it presented.

What the ultimate result of this general movement will be, no man can tell. So far as the farmers of Michigan are concerned, they are in the best possible situation to weather the storm without loss, since they have a minimum amount of live stock on feed as compared with previous years, and we believe that no large losses will be suffered by feeders from this movement. But should the agi-

tation continue, and people be inducted to think along similar lines, seeking for places to economize everywhere, the matter may be carried to such an extreme point as to affect general trade, and convert a condition of relative prosperity into one of impending panic. The bright spot in this situation, however, is that our people are all busy, as they ever are in times of general prosperity, and a busy people are more generally a contented people and a self indulgent people than otherwise, so that while some apprehension with regard to the outcome of this movement is natural on the part of producers, it can hardly be that probable that this agitation will be carried to the extreme which is pointed out as having such possible results as are noted above.

A map recently published by the Dairy Division of the Bureau of Animal Industry of the U. S. Department of Agriculture, showing the location of the creameries in operation in the United States, is of particular interest not only as an object lesson in what community production will do for any section of the country, but as well in the effectual manner in which the farmers of some sections of the United States are building up their soils or conserving the fertility already in them.

This map shows that in the United States there are 6,235 creameries in operation of which Wisconsin has an even 1,000, Minnesota 338, New York 744, Iowa 592, Pennsylvania 461, and Michigan 309, thus making Michigan sixth in importance in the dairy industry judged from the number of creameries in operation. It is also of interest to note that some of these states other than Iowa, located in the corn belt, are developing an important dairy industry, notably Illinois with 247 creameries and Indiana with 137. Minnesota has apparently profited by the object lesson furnished by Wisconsin, being second in number of creameries in operation notwithstanding its reputation as a wheat state. The Dakotas have respectively 109 and 143 creameries, thus showing that the hard wheat belt is being rapidly invaded by the dairy industry. California has 252 creameries, Washington 245, and Oregon 125, which is proof that the Pacific Coast farmers are developing a dairy industry to take care of their home market, while practically all of the western states apparently have dairy communities scattered thru them, with creameries located at many widely separated points. Of our sister states not mentioned, Ohio has 196 creameries, being ahead of Indiana in this industry. This map shows that the creameries are located in blocks in almost all of these states. Some counties are thickly covered with them while adjoining counties will have few. In Michigan, however, the creameries are well scattered over the better agricultural counties of the state indicating that they are comparatively large units and that each may become the center from which the dairy industry will spread until practically the whole state is thickly planted with creameries.

A similar map showing the location of cheese factories is of interest in that it shows that where the creameries are most numerous there also are the cheese factories most plentiful. It is most remarkable to note that of 3,846 cheese factories in the country, Wisconsin has 1,784, nearly twice as many as any other state in the union. New York is second with 917, while Michigan is third, with 235. Of the other states, Ohio follows with 230, California next with 158, and Pennsylvania sixth with 116. The cheese making industry, however, is also relatively strong in other states mentioned where creameries prevail, Minnesota having 80, Illinois 68, Oregon 66, with others mostly scattered over the north central and New England states, but with a few in the states west of the Mississippi, in what appear to be favorable localities in their adaptability for the dairy business.

In this sectional development of the dairy industry there appears to be much of promise for the future along agricultural lines, since no other business affording a regular profit is so well adapted to the conservation of soil fertility and the actual improvement of the producing power of the land on which it is carried on. The future of the dairy business means much to Michigan as it does to the other states mentioned as being strong in that department of agriculture and, to the end that it may suffer no decline from unfair competition with colored oleomargarine, every dairyman located within the territory noted should make it his business to oppose, by every means within his

power, the proposed repeal or modification of the oleomargarine law, which now imposes a tax of 10 cents per pound on oleomargarine colored in imitation of yellow butter.

Still another echo resulting from the agitation of the subject of the high cost of living is heard in the report contained in the following note from our Washington correspondent, who says:

From present indications Congress will be impelled to take up in a serious way the question of legislation relating to the subject of dealing in futures. President Taft has taken a stand in favor of such legislation, and he is conferring with men who have given study to the existing conditions and the need for remedying them, and also to the ways in which it is feasible thru legislation to undertake to remedy them. Attorney General Wickersham will prepare a bill which it is hoped will meet the situation, and there will be hearings upon it, in order that all views may be obtained and the measure may be strengthened as far as possible.

Those who have given the subject study are well aware that it presents great difficulties when it comes to legislating upon it in any effective way. The bill which Representative Scott, of Kansas, has introduced would forbid the use of interstate telegraph and telephone lines and the mails for the transmission of messages referring to futures, so-called, on farm products. While such a law would end the business if it could be strictly enforced, it has constitutional and other obstacles in its way which would not prove entirely easy to surmount. There is a widespread impression that the cost of living is materially increasing by this form of speculation, and while not all agree on this point, the efforts now being made by the administration and in congress to take hold of the question are to be commended. They will at least result in a more intelligent comprehension of a system that is now but little understood by the public generally as to the effects of its operations.

A correspondent from North Central Michigan

advises us that parties are operating in some of the northern counties of this state, a scheme which seems to bear a close resemblance to the Bohemian oat swindle of a generation ago. The scheme, as outlined in this correspondent's letter, is to make the prospective victim believe that the variety of oats furnished by the operator, will yield 25 bushels per acre more than any other variety when planted side by side. The operator informs prospective customers that only 100 farmers in any one district (the size of the district not being defined), will have the opportunity to get this seed, each farmer being required to purchase in four bushel lots at a uniform price of \$4.00 per bushel. Some sort of contract is then executed by which the promoters agree to take all the oats grown and for sale at the "market price." It is also proposed to present to the farmer having the largest yield a new binder of any make which he may select. Regarding the scheme our informant further says:

It seems incredible that in these times enough suckers could be caught with such a scheme, to make it profitable to the grafters. One of the promoters says that it is a veritable gold mine.

It surely is. Look at it. 100 lots of 4 bu, each in the "district" at \$4.00 per bu. \$1,600.00
Cost of seed (claimed) 65c per bu 260.00
Cost of one binder, any make..... 135.00
Freight and expenses (allowed)..... 100.00

Total \$ 495.00
Net profit on one "district" or on 400 bu. of oats \$1,105.00
It beats Standard Oil, Calumet & Hecla copper, Beef Trust and gold mines to the frayed out edge of nothing."

It would seem that these old swindles would be worked out, but in some form they re-appear year after year and their promoters seem to find fertile new ground in which to work them. We are glad to give publicity to the exposure of a swindle which it would not seem possible, as our correspondent says, could be successfully prosecuted in any community, and trust that the warning may be the means of putting the fakers who are working it out of business permanently.

HAPPENINGS OF THE WEEK.

Foreign.

The latest reports regarding the English elections show that the unionists have 221 members in the coming parliament, liberals 202 members, laborites 34, and the nationists 69. One time it was believed that the unionists would have a very large working margin in the coming

organization, but during the past few days, returns have given hope that the liberals may not only overcome the margin, but possibly will have as large working majority as in the last parliament. Should such be the case, the house of lords will undoubtedly have their power in legislative matters curbed.

Arrangements have been made for a voyage across the Atlantic ocean in a dirigible balloon, the trip to take place next May. Boats will accompany the balloon, the journey beginning from Berlin.

Damage beyond any immediate possibility of accurate estimate, has been caused in France by floods. All over that country, heavy rains have fallen and the valleys and streams are filled with water. The greatest damage appears to be in and about Paris where the streets are flooded and the people are being driven from their residences to places of safety.

Dr. Kemp, of Berlin, is constructing a submarine boat with which he hopes to take a trip to the North Pole. This is not the first time the submarine idea has been thot of in this connection, but it likely will be the first attempt to make the journey in such a manner.

It was announced in the chamber of deputies at Constantinople that the Turkish government will extend to the Cretans the largest measure of self-government but will do everything in their power to uphold the rights of the Turkish Sultan in Crete.

The Royal geographical society of England at a meeting Monday, voted to award Commander Robert E. Peary with a special gold medal for his achievement in reaching the North Pole.

Four cars of a Canadian passenger train on the Soo branch of that line were derailed near Sudbury, Ont., and thrown down an embankment into the Spanish river. To date 37 bodies have been recovered from the wreck. There were 79 passengers on the train and all but seven were either killed or injured. The wreck was probably caused by a broken rail and is the most disastrous that has happened on Canadian roads for a long time.

Two earthquake shocks were felt at Kingston and Martinique last Sunday. The inhabitants were terrified at the disturbance but no damage was done.

Japan and Russia have politely refused to consider the proposal by United States Secretary of State Knox, to neutralize the Manchurian railways of China, arguments for the refusal being that the scheme would be of no advantage to China or Japan, and that Russia feels her political strategic and economical interest would be greatly hampered.

The Duke and Duchess of Connaught have left London for a hunting trip in East Africa. They will follow much the same route as that covered by Colonel Roosevelt.

It is reported that Col. Roosevelt has killed altogether, five white rhinoceroses.

The Chamber of Deputies of France are blaming the church for agitating the school question again when it was on a fair way toward settlement and for bringing, thereby, unnecessary hardship upon the poor people.

It is ascertained that a revolutionary movement has been started in Guatemala. War materials in used in the recent rebellion in Nicaragua are being shipped into the other country for this purpose.

The Chamber of Agriculture of Prussia adopted resolutions asking the German government not to make any concessions toward America because of the conditions in the Payne tariff law which advanced duties on importations from Germany.

At a meeting of the French academy of science it was reported that a member had succeeded in making artificial sapphires from a combination of aluminum, oxide of iron and titanium.

National.

A movement to merge all of the labor organizations of the country into a single organized body is under way at the meeting of the United Mine Workers at Indianapolis.

It is expected that the recent manipulation of Hocking coal and iron stock in the New York exchange will result in bringing the parties responsible for the manipulation into court which will necessitate investigation into the methods of business in that organization.

Owing to the expense caused by accidents at the Soo, the past summer, the government threatens to compel carriers to move their boats thru the canal there, by means of pilots.

Another \$1,000,000 automobile plant has been announced for Detroit.

Judge Gage, of the Saginaw county circuit court in a long decision up-held the recent voting machine law passed by our legislature, as constitutional.

On Monday night of this week one of the greatest automobile shows ever held was opened in the city of Detroit.

The New York assembly adopted a resolution favoring the raising of the Battleship "Maine," sunk in the Havana harbor.

The salaries of the judges of the court of customs appeals which was created by the new tariff law were fixed by the house of representatives at \$7,000 each. The salaries named in the law was \$10,000. The matter must be considered by the senate however, before it is finally determined.

Alvinus B. Wood, who discovered the carbonate ores which made Leadville, Colorado, famous, died in Detroit at the age of 78.

A sensation has been caused in Huron county by the discovery of frauds in connection with milk delivered at a local milk condensary where almost every can of milk inspected was found to contain water or to have been run thru separators and partially skimmed. Scores of farmers furnishing milk for the concern have been heavily fined by the local courts.

It is expected that the United States Supreme Court will attempt to define the term monopoly in preparing decisions in the Standard Oil or tobacco cases, now under consideration. The limitations of

the word as defined by the above court will be of interest to big concerns as it will determine which ones will be allowed to continue business and which ones must re-organize.

CROP AND MARKET NOTES.

Osceola Co., Jan. 17.—Snow is the order of the day. It commenced snowing on the evening of Dec. 5, and from then up to date it has snowed nearly every day. There is more snow on the ground now than at this time of year in many years. Roads are drifted badly, being nearly impassable in many places. The rural carriers have been unable to cover their routes a few days, but have not missed as many times as reported from other parts of the state. Too much snow in the woods to do much work. Chores are about all most farmers have to do now. Too much snow on fields to haul manure. Cattle are high and scarce; buyers are scouring the country picking up most anything they can find. New milch cows are high, common cows selling at \$40@50 each. Hogs are scarce and selling up to 10½¢ per lb., dressed. Hay is selling at from \$12@15 per ton. Potato market is dull at 25c, not many been moving for a long time, but commencing to move a little more now. Business is a little slack on account of the small potato crop and the low price.

Shiawassee Co., Jan. 20.—Weather is moderate with prevailing southwest winds. Sleighting continues excellent. A few farmers cutting logs for use in building. No timber being cut for commercial purposes. Many farmers are finding it less expensive to burn coal for fuel. Wheat is going thru the winter in excellent condition. Rye is also withstanding the weather in good shape. Potato growers are holding onto their crop expecting a better market. Beans are being withheld. Some farmers are disposing of the wheat they have been holding for the past two years. Farmers are making a big mistake in selling their straw. It means soil depletion. Hay is being sold at fair prices. Farmers are slow to take best acreage this season, believing that more money should be paid for raw material. A few fine horses are coming into this locality for breeding purposes. Lambs are constantly being shipped in and out to market. The feeding thus far has been very satisfactory. No cattle on feed. Very few hogs in the country.

Livingston Co., Jan. 19.—We are having very fine winter weather, with fine sleighing which has now been on about five weeks. Conditions have been fine thus far this winter for wheat and clover. Feeders marketing their lambs at \$7.60 per cwt. Farmers holding their grain for higher prices. Hired help is very scarce and farmers are now offering from \$25 to \$30 per month for help for the coming season. Stock of all kinds doing well. Farmers are now busy getting up their summer wood supply.

Isabella Co., Jan. 17.—Wheat and rye made a good growth in the fall, was well covered with the first fall of snow about the middle of December and have been well covered ever since. Prices for farm produce are good. The condensed milk factory is paying \$1.60 per cwt for milk; wheat, \$1.22; oats, 43c; beans, \$1.85; hogs, \$7.50@8; chickens, 11c lb; eggs, 28c per dozen.

Allegan Co., Jan. 24.—The writer has had the privilege of attending a series of farmers' institutes in this county and at all of them there was a good attendance and much interest was taken in the topics presented; especially did the care of the old apple orchard and the honest packing of fruit receive hearty support. There have been but few days since Dec. 5, that it has not stormed and there is considerable snow on the ground. Wheat went into winter quarters in good shape. Stock is looking good but there is a scarcity of all kinds of stock, especially hogs and horses. A large number of hogs have been marketed at Allegan, which will be run down the river to make baskets of. Roads are bad for hauling large loads now. Farmers are putting their ice and getting up wood. Considerable corn is not yet husked.

MICHIGAN FARMERS' INSTITUTES.

Two-day Meetings—Lake Co., Chase, Feb. 2-3; Ionia Co., Ionia, Feb. 1-2-3; St. Clair Co., Smith Creek, Jan. 31-Feb. 1; Macomb Co., Richmond, Feb. 2-3; Lapeer Co., Hadley, Feb. 4-5; Allegan Co., Wayland, Feb. 3-4; Calhoun Co., Battle Creek, Feb. 3-4; Van Buren Co., Lawrence, Feb. 4-5; Berrien Co., Eau Claire, Feb. 7-8; Cass Co., Cassopolis, Feb. 8-9; St. Joseph Co., Constantine, Feb. 9-10; Jackson Co., Grass Lake, Feb. 9-10; Branch Co., Coldwater, Feb. 10-11; Barry Co., Hastings, Feb. 11-12; Hillsdale Co., Jonesville, Feb. 11-12; Washtenaw Co., Ypsilanti, Feb. 15-16; Livingston Co., Howell, Feb. 15-16; Wayne Co., Romulus, Feb. 16-17; Oakland Co., Pontiac, Feb. 16-17; Genesee Co., Goodrich, Feb. 17-18; Lenawee Co., Adrian, Feb. 17-18; Ingham Co., Mason, Feb. 18-19; Shiawassee Co., Morrice, Feb. 7-8.

Round-up Institute, Agricultural College, Feb. 22-25.

One-day Meetings—Jackson Co., Michigan Center, Jan. 31; Brooklyn, Feb. 1; Napoleon, Feb. 2; Henrietta, Feb. 3; Tompkins Center, Feb. 4; Rives, Feb. 5; Oakland Co., Ortonville, Feb. 4; Highland, Feb. 5; Hillsdale Co., Litchfield, Feb. 1; Allen, Feb. 2; Montgomery, Feb. 3; Reading, Feb. 4; Pittsford, Feb. 5; So. Jefferson, Feb. 7; Livingston Co., Gregory, Feb. 2; Parker's Corners, Feb. 3; Pinckney, Feb. 4; Brighton, Feb. 5; Oak Grove, Feb. 7; Deerfield, Feb. 8; Tyrone, Feb. 9; Washtenaw Co., Ann Arbor Twp., Feb. 7; Dexter, Feb. 8; Sylvan Twp., Feb. 9; Manchester, Feb. 10; Saline, Feb. 11; Stony Creek, Feb. 12; Barry Co., Woodland, Feb. 7; Carlton Center, Feb. 8; Freeport, Feb. 9; Middleville, Feb. 10; Wayne Co., Cherry Hill, Feb. 7; Plymouth, Feb. 8; New Boston, Feb. 9; Dearborn, Feb. 10; Trenton, Feb. 11; Greenfield, Feb. 12.

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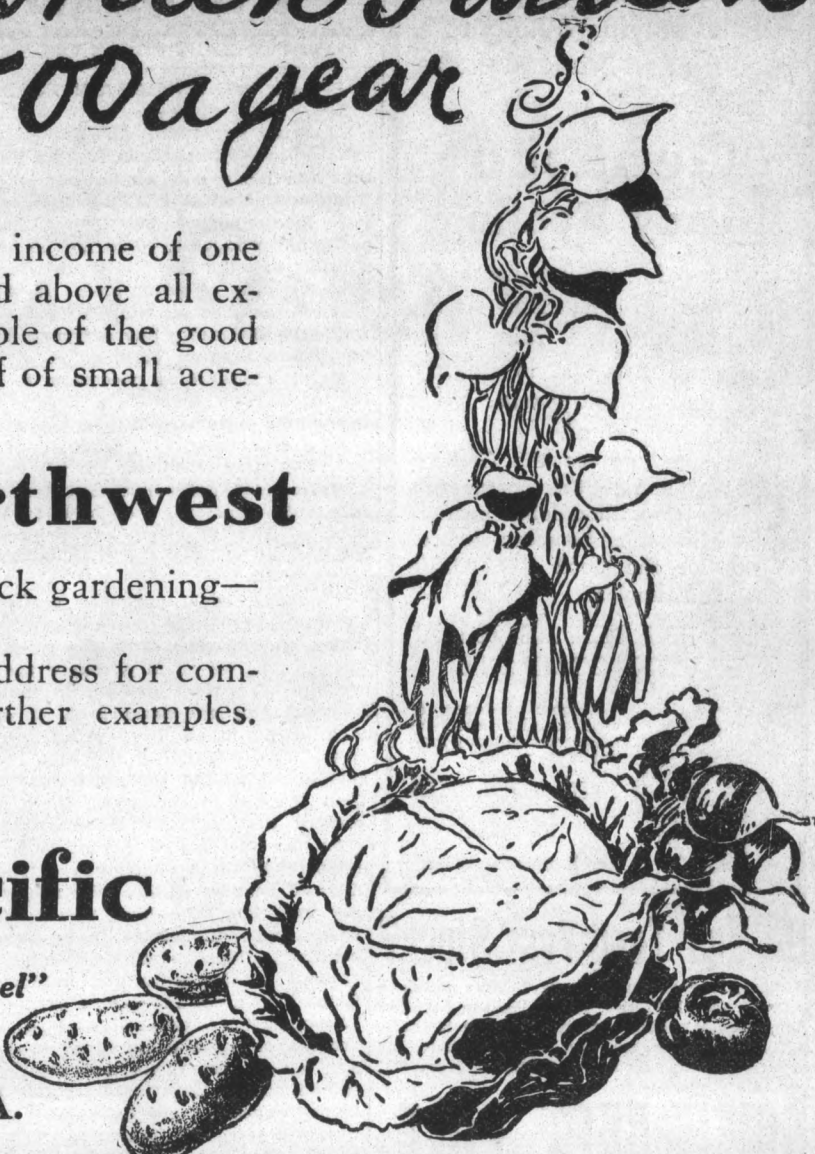
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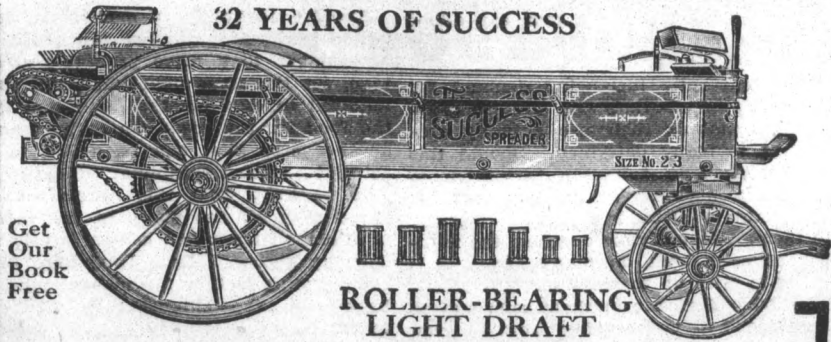
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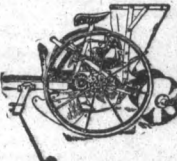


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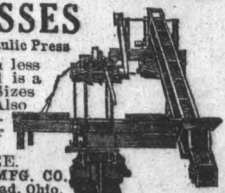
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THE DAIRY

CONDUCTED BY COLON C. LILLIE.

SHALL WE BUY GRAIN FOODS?

I heartily agree with Mr. Taylor, whose article recently appeared in The Farmer, that the dairy cow cannot make something out of nothing. The highly organized, special purpose dairy cows, the most profitable producers, could not be kept at a profit in a northern latitude without a liberal supply of grain food. If we had pasture grass at all times of the year it would be different; but dairying has, so far, made greater progress in a colder climate, where it is necessary to house the cattle and feed them inside during the winter months.

A great change is gradually coming over the dairy business. On the majority of farms the dairy business has, in its fullest development, been built up largely upon a basis of cheap grain foods and commercial by-products from the western states.

When we could purchase grain foods and the by-products from the glucose factories and flouring mills for from \$8 to \$15 per ton, we could purchase the same amount of protein cheaper in many instances than we could grow it on our farms, and make more profit from our cows, notwithstanding the fact that we sold our products for much less money than we are receiving for them at the present time. Today we are facing an economic question of more than ordinary importance to the dairymen of the middle and eastern states. We are wondering how long the high prices of grain foods and commercial by-products will continue. This question is simple to the student of the grain and milling situation. The great movement of the center of population westward has resulted in creating a home demand for these grain and by-product foods and we dairymen of the eastern and middle states can no longer expect to purchase dairy foods at the low prices that we have in former years. In fact, the time is close at hand when the west will consume practically all of the by-products from its mills. This same condition is being noticed in other grain foods and the time is soon coming when we must return to a larger and more intensive system of farming and grow balanced rations on our own farms. The fact that better prices for dairy products must come is certain, yet when these products reach a certain price consumption decreases, for the laboring class, who form the larger portion of the consumers of these products, can not afford to pay the increased price and will demand substitutes.

Dairying Dependent Upon Western Grains.

In many sections of the eastern states where dairying is the leading branch of agriculture, the plow has been largely laid aside, the farms converted into the production of hay and ensilage, the great grain garden of the country furnishing grain, the main product required to make the milk. Is this the type of dairy farming that Mr. Taylor would advise the Michigan dairymen to develop? Would they be content to utilize their most excellent agricultural lands for the production of hay and ensilage corn, increase the size of their herds and depend upon the granaries of the west to furnish them with a large proportion of their cattle foods? This is the problem that must be decided upon before a man can adopt a definite policy in the development of his dairy business.

The constantly increasing demand for these dairy feed-stuffs and western grain foods is making their use actually prohibitive to many dairymen. Should this induce Michigan dairymen to go out of the dairy business in consequence? It is certain to ultimately prove a blessing to them. Altho it may decrease the number of cows kept on many farms it is going to open up to them the possibilities now lying dormant in their soils and be the means of encouraging them to grow other crops that are adapted to their soil and climate. It is going to encourage the growth of more and better dairy foods and highly organized truck and market crops that will afford funds outside of the dairy for the purchase of the more highly concentrated nitrogenous foods that are required to balance the rations of the high producing dairy cows. I know something of your soils and conditions and I will say without hesitation that by depending upon the manure from your dairy cattle and the clover fields for your supply of nitrogen and the purchase of cheap

mineral fertilizers carrying considerable potash and phosphoric acid, you can develop a more remunerative system of dairy farming and crop growing and gradually increase the productivity of every acre of naturally fertile soil that is brot under this new system of dairying and crop growing.

There is no question but what the indiscriminate feeding of these expensive grain foods stands as a barrier across many a dairy farmer's path to success. My own experience in feeding these high priced grain foods, and my direct observation of others who have been following the same practice has convinced me that to feed more grain to make more manure to grow more roughage to keep more dairy cattle cannot work out as a safe principle in farm management. As a secondary consideration, to the man who is combining his dairy business with market crop growing it may prove very profitable. Under his system of soil management, the clover sod and the manure from the dairy herd will provide an abundant supply of nitrogen for the corn crop, the market crop, and the small grain crop that is grown in the rotation and used to seed the clover crop with. While the phosphoric acid and potash applied to the soil during the rotation, in addition to that contained in the stable manure, will enable the clover plants to do their most thoro work at nitrogen fixation and consequently to make a better growth of forage and bring up more mineral fertility from below the depth reached by other plants grown in the rotation.

Many dairymen are situated in localities where market crop growing may not prove adapted to their farms and such men would undoubtedly find greater profits in growing some grain crop in place of a money crop and to such men I would suggest that they grow some hoed crop that requires intense cultivation during the whole of the growing season. The more I study the value of intense tillage and thoro cultivation given some hoed crop the more I have come to appreciate its value in our crop rotation. No practical farmer who has given some hoed crop thoro cultivation during the whole of a growing season has failed to note the good effects upon the succeeding crops in the rotation.

Should Become Good Cultivators.

Years ago the old practice of bare summer fallowing found favor with many farmers, but during recent years the decreased price of farm products and the increased cost of labor has made its use almost prohibitive; besides, the practical farmers have discovered that a hoed crop will accomplish all that a bare fallow possibly can and still pay better than any other crop that is grown in the rotation.

Too many dairymen believe that feeding dairy cows makes soils richer regardless of their management. They think that the cows will keep up the soil. This belief has caused many dairymen to neglect every modern method of soil handling and to depend upon the application of a few more loads of manure to correct every torture of nature and restore the fertility of their soil after it has been subjected to twenty or more years of plant food dissipation. With the manure made from feeding purchased grain foods thousands of farmers have not maintained the fertility of their farms. Dairymen very often do not know what first-class cultivation is. By careful management and intense cultivation a small amount of stable manure will go a long way toward maintaining and increasing the fertility of the soil.

Another advantage of more thoro cultivation is the fact that we can utilize our hired labor to a more profitable advantage, for the same men and horse power required to care for the dairy and grow the food for the cows can easily manage another crop that can be added to the rotation, with a minimum of extra day help. I know that this article will not agree with all the views of my readers in Michigan for it is a comparatively new dairying state. I have lived here in an old dairying section for many years and have seen the extension of city milk routes into the country and the building of condensaries and powdered milk plants and seen the dairy farmers form unwarranted ideas of prosperity and ease, but somehow or other their plans did not work out, for when they deducted their feed bills from their milk checks, they found that their profits were small. The wall from dairy farmers in many sections who are practicing an exclusive system of milk production at the expense of every other branch of farming does not show them to be the most successful of the dairy fraternity.

New York. W. MILTON KELLY.

TOO BAD

Too bad any woman must wash a complicated cream separator. Too bad anyone is misled into thinking complicated bowls are necessary. Look at the upper picture. Those 52 disks were all used in one common disk machine that was discarded for a Sharples Dairy Tubular.



Look at the lower picture. It shows the only piece used inside the wonderfully light, simple, sanitary, easy to clean, wear-a-lifetime Sharples Dairy Tubular Cream Separator bowl. Any wonder Tubulars probably replace more common separators every year than any one maker of such machines sells? Tubulars skim faster and cleaner than any other separator.

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A GOOD HERD RECORD.

That farmers are improving their business methods, is confirmed by the large number of dairymen who know exactly what they are receiving from their cows. In the following table are the figures showing the number of cows giving milk during each month of the year in the herd of C. Ottis Brott and A. Small, of Hillsdale county, the amount of milk sold, gross returns and the price paid for the milk:

Month.	No. of Cows.	Quantity of Milk.	Price per cwt.	Total Receipts.
Dec. ...19	17	8,190	\$1.32½	\$108.50
Jan. ...17	14	7,275	1.30½	94.92
Feb. ...14	14	7,395	1.28 3-10	94.96
Mar. ...16	16	10,375	1.25	129.68
April ...18	18	9,915	1.24	122.94
May ...17	17	11,960	1.19	142.32
June ...20	20	16,006	1.10	176.66
July ...20	20	13,285	1.15	152.78
Aug. ...20	20	11,660	1.26	146.90
Sept. ...19	19	10,765	1.45½	156.62
Oct. ...19	19	8,375	1.47½	125.52
Nov. ...14	14	5,895	1.46	86.06
Total				\$1,537.76

There were 21 cows in the herd. The calves produced sold for \$130.02, making a gross income from the cows of \$1,667.78, or an average for each cow of the herd of \$79.42. They have a silo and testify that ensilage is a cheap feed for dairy cows.

MICHIGAN EDUCATIONAL SCORING TEST FOR DECEMBER.

The December scoring was held at Michigan Agricultural College, East Lansing. The butter was not scored until January 15. The principal reason for holding the scoring test at the College was to give the Short Course creamery students a practical lesson in judging butter.

The butter had been held several days and was practically in the same condition it would ordinarily be in upon reaching the consumer's table. It had been held long enough to give it a severe test.

Poor raw material was evident in many tubs, and there was altogether too many tubs showing mottles and wavy color. When we consider that this defect is due to poor workmanship on the part of the buttermaker we can draw but one of two conclusions: Either the buttermaker was careless, or else he did not have proper facilities for controlling the temperature of his cream, and butter, and wash water; for it is quite usually believed that wavy color comes from uneven distribution of the salt. The butter is too cold to get the salt evenly worked in. The result is mottles and wavy color. For the poor cream, the buttermaker is not entirely responsible. This is up to the patron, but the patron will never care for the cream properly as long as he receives as much for poor cream as he receives for good cream.

PROGRAM OF DAIRY MEETING AT DETROIT.

The annual meeting of the State Dairymen's Association will be held at the Wayne Pavilion, Detroit, February 1-2-3 and 4, as announced in our last issue. That our readers may know a valuable and entertaining session has been planned for them we append the program herewith, a perusal of which should encourage not alone those who have given this branch of farming close attention, but also those men who are undecided on entering the business. The speakers are men of wide experience. The subjects are important and cover the broad field of investigation, from preparing the feeds, to the final consumption of dairy products. The program is as follows:

Opening and Milk Producers' Session.
Tuesday, February 1, 1910, 2:00 P. M.
Music, invocation.
Address of welcome, Mr. Philip Breitmeyer, Mayor of Detroit.
Response, Mr. N. P. Hull, Dimondale.
President's address, Hon. T. F. Marston, Bay City.
Report of secretary and treasurer, Mr. S. J. Wilson, Flint.
"Some problems of the milk producers," Dr. Geo. A. Waterman, Ann Arbor.
Discussion, Mr. Geo. A. True, Armada.
"What the public expects of the producer and the remuneration he receives for it," Mr. H. B. Wattles, Troy.
Discussion, Mr. J. A. Lawson, Deerfield.
Milk Consumers' Session.
Tuesday, February 1, 1910, 7:30 P. M.
Music.
"The consumer's part in solving the milk problem," Mr. Ivan C. Weld, Assistant in Market Milk Investigations, Washington, D. C.
Discussion, Mr. Ira O. Johnson, Detroit.
"City milk inspection and its problems," Dr. Floyd W. Robinson, State Analyst, Lansing.
Discussion, Mr. Geo. W. Towar, Detroit.
"Control of city milk supply," Dr. Guy

L. Keifer, of the Health Department, Detroit.

Discussion, C. E. Hadsell, Troy.
"Is the sanitary dairy all that the name implies?" Dr. Ellsworth Orton, Pontiac.
Discussion, Mr. H. F. Probert, Jackson.
Appointment of Committees.

Dairy Farmers' Session.
Wednesday, February 2, 1910, 9:30 A. M.
Music.
"Building up the dairy herd," Mr. N. P. Hull, Dimondale.
Discussion, President T. F. Marston, Bay City.
"Organization," Mr. Sam B. Shilling, President National Dairy, Union, Chicago, Illinois.
Discussion, Mr. D. P. Miller, Almont.
"Co-operative bull associations," Mr. W. F. Raven, Brooklyn.
Discussion, Mr. T. B. Crawford, Almont.

Buttermakers' Session.
Wednesday, February 2, 1910, 1:00 P. M.
Music.
"Pasteurizing gathered cream for butter making," Mr. E. S. Powers, Ravenna.
Discussion, Mr. John Batten, Avoca.
"Starters and ripening of cream," Mr. Simon Hagedorn, Fenton.
Discussion, Mr. J. M. Rohrer, Grass Lake.
"Churning, working and packing the butter," Mr. Frank Shaw, Goodrich.
Discussion, Mr. C. M. Partch, Armada.
"Keeping qualities of butter," Dr. Chas. E. Marshall, East Lansing.
Discussion, Mr. B. A. Hillman, Romeo.
"Should the buttermaker be manager of the creamery?" Mr. J. F. Powers, Quincy.
Discussion, Mr. John Strating, Grant.
"Resurrection of a rundown creamery," Mr. L. C. Waite, Coldwater.
Discussion, Mr. Edward Winter, Port Huron.

Exhibitors' Session.
Thursday, February 3, 1910, 9:00 A. M.
Music, followed by the election of officers under the supervision of the board of directors in the exhibition hall.

Buttermakers' Session.
Thursday, February 3, 1910, 1:00 P. M.
Music.
"Creamery butter making as a business," Mr. Geo. T. Yetter, Eau Claire.
Discussion, Mr. S. R. Miles, Buchanan.
"Whole milk butter making," Mr. Chas. R. Webb, Chesaning.
"Gathered cream butter making," Mr. R. F. Frary, Lapeer.
Discussion, (both topics), Mr. Walter Hall, Owosso.

"Should the cream be sampled and weighed at the farmer's door by the driver?" Mr. W. H. Bechtel, Caro.
Discussion, Mr. John McDonald, Sterling.

"Should gathered cream or milk be tested at every delivery or by composite samples," Mr. Claude A. Grove, Litchfield.
Discussion, Mr. Walter Vassold, Midland.

"Grading cream at the creamery and paying according to quality," Mr. Colon C. Lillie.

Discussion, Mr. T. C. Halpin, Vassar.
Cheese Program.

Friday, February 4, 1910, 9:30 A. M.
Music.
"Difficult problems in cheese making," Mr. Robert Johnson, Woodstock, Ont.

Discussion, Mr. R. L. Ives, Greenville.
"Making a close meaty textured cheddar cheese," Mr. R. A. Murray, Byron.

Discussion, Mr. J. G. Dennis, Novi.
"What will be the difference in the yield between 3 per cent and 4 per cent milk made into the cheese," Mr. A. B. Greer, Mayville.

Discussion, Mr. G. Glasser, Bancroft.
"What qualifications are necessary to be an up-to-date cheese maker?" Mr. Wm. Reed, Perry.

Discussion, Mr. W. W. Thompson, Grand Blanc.

Friday, February 4, 1910, 1:30 P. M.
"Best system for paying patrons for milk delivered at the cheese factory," Mr. N. B. Horton, Fruit Ridge.

Discussion, Mr. M. B. Armstrong, Pontiac.

"What is a good cheese," Mr. H. E. Loyster, Hudson.

Discussion, Mr. Chas. Dear, Novi.
"Should the patrons get their supply of cheese from the factory at wholesale prices?" Mr. I. E. Colvin, Hudson.

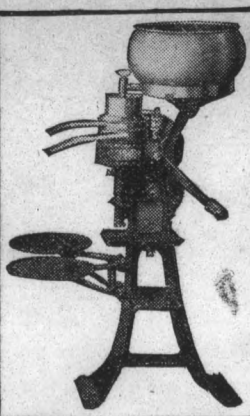
Discussion, Mr. John Leidlein, Saginaw.

The program has been specially arranged that those interested only in one phase of the dairy business can get the papers and discussions on that phase by attending but one or two of the sessions. It is anticipated that a large attendance will be present.

THE MODEL STALL.

You state that the model stall is 7½ ft. long. Is that large enough for a 1,200 lb. cow? Can you describe and give a cross section drawing of your water system, where to place the buckets, pipes, etc.? Do your chains have a short piece of chain, (if so what length), between slide bar and swivel? Or is the swivel connected directly to the rod by a ring? Do the 2x4's in front of the hind feet interfere with the milk stool? Have a heifer which came fresh about six days ago. She has a lump in her right hind teat. Two years ago a sister to this one had one the same way. She gave bloody milk after we milked her two weeks. What can I do to take the bunch away or prevent it from doing any damage?
Osceola Co. H. W. H.

I think that seven and a half feet will do very well for the length of the stall from front of the manger back to the bottom of the partition between the cows, even for cows weighing as much as 1,200 pounds, but it would do no harm to have them six inches, or even a foot longer, yet they would then be in the way when



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milking. The gutter is really not a part of the model stall arrangement. You can have one if you wish but it would have to be placed back of the stall. In other words the cows are not lined up to the gutter, as with other stalls where the stanchions are used. The gutter is a necessary part of it and assists very much in keeping the cows clean, while in the model stall the gutter has nothing to do with keeping the cows out of the droppings. The raised bed above the 2x4 which crosses the stall in front of the cow's hind feet, keeps the cow out of the filth and allows her to lie in a clean place.

I run the pipes for the water system along on the edge of the manger next to the cow. It will be remembered that this edge of the manger is only four inches high. An inch galvanized pipe is run along and lays right on the edge of this manger and then on one side of the stall a T is put in with a short nipple and the bowl is fastened here. It does not matter particularly on which side of the stall the drinking bowl is but it is better to have the chain stapled on the opposite side of the stall because where the chain is stapled on the same side with the drinking fountain, the cattle are more apt to wrench and twist the covers. My chains are crotch chains, the crotch chains or forks of the chains reaching around the cow's neck and fastening with a snap. The other end has simply a bar across the end. We put this bar thru a staple driven into the side of the stall. The 2x4 across the stall does not interfere very much with the milking if you use a one-legged milking stool, but a stool with three legs, if the cow is in the right position sometimes will not set level, but there is no trouble with one-legged milking stools.

With regard to the heifer, I cannot understand exactly the nature of this bunch. If it is like a little kernel that seems to be at the center of the teat, or in the milk duct, the only way I know of is to have it removed, and this, of course, means a surgical operation. On the other hand, if it is nothing more than a swelling caused from a caked udder, by bathing it with hot water and using some camphorated ointment, it will usually disappear; but the little kernels which sometimes form in the milk duct up at the base of the teat are often serious. Of course, they can be cut out but this makes an extremely sore teat just at a time when the cow is fresh and you want to milk her. Perhaps if you would insert a milking tube, or a hard rubber plug into the teat, that it would be benefited some by this.

WHEN THE BUTTER FAILS TO COME.

We will soon hear from those who can not get the butter to come. As we are past the age when the good woman drops a silver spoon into the cream to drive away the witches, we will have to try something else.

I find the old stone dasher churn convenient this season of the year. I set the dishpan on the floor, set the churn in that, and fill the space around with hot water. By renewing this water from time to time the cream can be kept at just the temperature desired, which should be around 70 degs.

As we have a cream separator and sell the cream we skim the cream to test 20 per cent. This makes the cream rather thin for churning, so I put sufficient sweet cream for a churning back into the separator and add as much hot water as there is cream. The water should be of sufficient temperature to make the whole warm enough to skim. Run this thru the separator again and the cream should test 40 per cent, which is plenty thick enough for churning. I usually churn sweet cream in the winter, and if the cream does not all churn and leaves the buttermilk rich I send it to the creamery with the rest of the cream.

There have been times, in the winter, when we had no separator that I could not get butter, but I always managed to get the butter-fat from the cream even tho it was not fit for table use, and only good for shortening.

By pouring boiling water over the cream, allowing it to get cold, then skim and repeat the process till the butter-fat is right for shortening, one is saved the loss of the cream which will not churn.

Some people who have a very small amount of cream, set the cream crock in a place where the contents will freeze, and thus are able to add a small amount daily and have the whole keep in good condition till enough for a churning can be obtained.

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K. T.

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Daily Production capacity over 50,000 Barrels—the largest in the world.

\$15.95
AND UPWARD

THIS OFFER IS NO CATCH.

It is a solid, fair and square proposition to furnish a brand new, well made and well finished cream separator complete, subject to a long trial and fully guaranteed, for \$15.95. It is different from anything that has ever before been offered. Skims 1 quart of milk a minute, hot or cold, makes thick or thin cream and does it just as well as any higher priced machine. Any boy or girl can run it sitting down. The crank is only 5 inches long. Just think of that! The bowl is a sanitary marvel; easily cleaned, and embodies all our latest improvements. Gears run in anti-friction bearings and thoroughly protected. Before you decide on a cream separator of any capacity whatever, obtain our \$15.95 proposition.

AMERICAN SEPARATOR CO., BOX 1061, BAINBRIDGE, N. Y.



THE LOW DOWN AMERICAN SEPARATOR

EXCELS ANY SEPARATOR IN THE WORLD

OUR LIBERAL TRIAL ENABLES YOU TO DEMONSTRATE THIS. While our prices for all capacities are astonishingly low, the quality is high. Our machines are up to date, well built and handsomely finished. Run easier, skim closer, have a simpler bowl with fewer parts than any other cream separator. Thousands of machines in use giving splendid satisfaction. Write for our 1910 catalog. We will send it free, postpaid. It is richly illustrated, shows the machine in detail and tells

all about the American Separator. Our surprisingly liberal long time trial proposition, generous terms of purchase and the low prices quoted will astonish you. We are the oldest exclusive manufacturers of hand separators in America and the first to sell direct to the user. We cannot afford to sell an article that is not absolutely first class. You save agent's, dealer's and even catalog house's profits by dealing with us and at the same time obtain the finest and highest quality machine on the market. Our own (manufacturer's) guarantee protects you on every American Separator. We ship immediately. Western orders filled from Western points. Write us and get our great offer and handsome free catalog. ADDRESS,

Plow and Harrow at Same Time

This plow attachment pulverizes and levels the soil as it is fresh turned and moist, thereby making a perfect seed bed before the ground gets lumpy and dries out. It is light running and requires no more horses than for ordinary plowing. Made for sulky and gang plows.

The cutting blades are made of the best plow steel, with plenty of curve to the blade so that it produces a draw cut. These blades are self-cleaning and cornstalks or trash cannot lodge.

THE NATIONAL ROTARY HARROW ATTACHMENT is destined to become the greatest farm labor-saver of the age! It does the work far better and easier than the old drag, because of the draw cut blades, and also because the ground is easiest pulverized and leveled when it is fresh turned. When your plowing is done, your harrowing is done! By all means SEE this great machine attachment. It will save you dollars, time and trouble. Ask your dealer to show it to you today. If he hasn't it, write us today and we will see that you are supplied. [J]

NATIONAL HARROW COMPANY, Box 121, LEROY, ILL.

A COW'S VALUE



PILLING'S PATENT

SOLID COIN SILVER

DEPENDS UPON HER MILK FLOW.

But you can't always get what the cow makes because of sore or obstructed teats.

Send for our solid coin silver milking tubes, which we will send with complete instructions to any part of the U. S. or Canada on receipt of price. By mail.

Prices.

Length.	Price.
1 1/2 inch, each.....	41c
2 1/4 inch, each.....	55c
2 3/4 inch, each.....	67c
3 1/4 inch, each.....	78c
3 3/4 inch, each.....	92c
4 1/4 inch, each.....	\$1.05

Send orders to the Michigan Farmer.

GRANGE

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

CAUGHT AT CONFERENCE.

The Granges in southeastern Michigan responded well to the request to send their lecturers to the first of the district lecturers' conferences authorized by State Grange. This was at Adrian, January 18, when sixty persons spent the day in considering ways and means to best promote Grange efficiency in that section. Two-thirds of that number represented lecture work in various Granges of seven counties.

Naturally discussions touched all phases of Grange work, for the lecturer has to deal with all. Note-books were in evidence throught the day and more than one lecturer reported "a bag full of game" at close of the conference. Past State Master Horton sketched the broad and comprehensive field of a lecturer's opportunity and duty in the only formal address of the day, the remainder of time being occupied by informal discussion, in which every person present had a part. The gist of only a few of many of the strong points made by the speakers can be given here:

"Elect a lecturer to attend to the work. If he does not have a mind to do that, he much better resign."

"Locate meetings as far as possible in advance where they are held in private homes, and in Pomona work; then develop assistance in the locality of the meeting place."

Annual letters, sent by the lecturer or other officer to every member on the roll, are found surprisingly effective in securing attendance and interest. The letter should set forth the particular needs and aims of the local Grange for the present year and invite co-operation. One Grange reports having sent similar letters to individuals who would make desirable members, followed them with personal invitations and harvested a fine class of new members.

"If people could be thoroly converted to the necessity of the Grange, enrolling officers would not be able to take down the names. Proceed to create such sentiment. Follow it up with personal invitations. Keep on thinking, planning and doing and ultimately your Grange will come out right."

The most impressive report of actual work was that of the Pittsford lecturer concerning their Juveniles. Organized a year and a half ago, these children now number 29; have maintained regular meetings, and have paid for everything they use, including rituals and an organ; last spring they studied Michigan birds until they could easily identify 25 or 30 different ones; this year are making themselves familiar with native trees in the same way; have nearly doubled attendance at the subordinate and are now preparing to soon graduate a class from Juvenile to Subordinate membership.

Again and again during the conference was heard this sensible suggestion—"Use printers' ink, use printers' ink!"

JENNIE BUELL.

AGRICULTURE IN RURAL SCHOOLS.

(From State Master's Annual Address).

Next to our homes there is nothing that ought to be of more vital interest to the members of our order, than the rural schools. It is there that most of our children will receive an essential part of the training that is to fit them for their life work. There is probably nothing in which most of us are more deeply interested than in the welfare of our children. That our rural schools have been, and are good schools, we do not wish to deny. That they might and ought to be better, we maintain. That our rural schools are not better I believe as much the fault of our farmers as of our teachers and educational leaders. It seems to me that we have too often shown a disinclination to co-operate with our educational leaders in their efforts to help us to better things. I do not mean by this that we should adopt, without proper consideration, all suggestions of our educators. They are by no means infallible. It sometimes seems as tho they would like to have us bear the expense of experimenting with their theories. But, as a rule, our educators are honest, conscientious, thinking and experienced men, and they are anxious to see better rural schools. I am persuaded that a little less of wholesale condemnation of the new, a little less of

unreasoning satisfaction with the old, and a more earnest desire on the part of our farmers to know what our schools should be, and a willingness and desire to make them that, would bring about results that we might all feel proud of.

I believe that we are all agreed that at present our schools are educating our bright boys and girls away from the farm, rather than toward it. How many of the boys who have graduated from our rural schools, and our high schools, have even had it intimated to them that there are just as many, and just as promising, opportunities for the use of well equipped intellects in the management of farms as in any other calling. So long as our school curricula are arranged solely for fitting students for the so-called professions, so long will these students follow the trend of their training. An education that does not best equip a student for his life work is not as practical as it should be. And despite the fact that probably 40 per cent of our Michigan boys and girls will put in their lives upon farms, our schools are doing but little to fit them for this especial line. I believe that every boy and girl should be taught elementary agriculture. For this is simply teaching them to see and know the things that are immediately about them. Many of us are going thru life seeing and knowing not one-half of what we ought to see and know, because we were never taught to see, nor how to know. Our education today is too much a blind acquiring of facts, and too little a training in how to learn. I think we have now about all the school laws we need. We can divide, unite, consolidate, or centralize our districts. We can build township high schools, and prescribe a course of study. Or, we may send our students to high schools already established. We may continue with the district as a unit, or we may adopt the township unit. It would seem that what might be the best arrangement along these lines for one locality, might not be the best for another. The thing for us to do as Patrons is to determine what we want, and then go after it. To this end I recommend that we invite school commissioners, teachers, professors and members of the Department of Public Instruction to our meetings, that we may, with their help, or they may with our help, or all together, we may be able to have better rural schools in Michigan. Many are afraid that a change of plan would mean an added expense, and expense is an element to be considered. But with this, it is well for us to remember, that the best school can not well cost more than it is worth.

ALLEGAN POMONA CONSIDERS HORTICULTURAL TOPICS.

The members of Allegan Co. Pomona Grange held a very successful two-day meeting at Allegan last week. The program features were addresses by two prominent fruit growers of western Michigan, the first being by Secretary Bassett, of the State Horticultural Society. His topic was "Reclaiming Old Orchards," or, as he said, making Allegan county orchards more fertile. He said in part: "We have been in the forestry business instead of the fruit business, judging by the bushy growth of the tree-tops. What we need is knowledge of how to grow fruit instead of trees, knowledge of the difference between a leaf-bud and a fruit-bud. We are all to blame because we have not had more apples. The farmer is a robber as respects his apple orchards. He gives them nothing but expects many apples in return. For instance, he will sod mulch the orchard, cut off the grass, put it in the barn, and then turn in the cattle and let them take what he could not get. Where does the tree get any fertilizer from such methods? Again, the farmer will leave the orchard in sod for many years and pay no attention to it. We would not expect any other kind of crop from such methods, why apples? We need to plow our orchards and cultivate them shallow and often. Put on plenty of barnyard manure and commercial fertilizer, the first for nitrogen and the second for acid phosphate, and try to get wood ashes for potash. These three elements are needed."

"After feeding the orchard we need to give some attention to the pests or insects. These are of three kinds, those that chew, those that suck, and the codling moth. A spray has been made to kill each of these three if used at the right time, and here lies the need of careful study on the part of the farmer."

Mr. Rowe, of Kent county, presented the other address, "The Care of the Orchard," being his topic. He held it to be as necessary for the orchard owner to know just what his orchard needs as it is for the dairyman or stockman to understand the feeding and the care of their animals. The three particular essentials are the man, the soil, and the location. County Secretary Angell went before the Pomona with pictures and reports of the 1909 corn contest conducted by the Y. M. C. A., and asked the co-operation of the Grange in another contest this year. No definite action on the part of the Grange was taken.

FARMERS' CLUBS

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—B. A. Holden, Wixom.
Vice-president—Mrs. C. A. Mathews, St. Johns.
Secretary—Mrs. C. B. Johnson, Metamora.
Treasurer—Henry T. Ross, Brighton.
Corresponding Secretary—Clayton Cook, Owosso.
Directors—T. B. Halladay, Norvell; E. C. Hallock, Almont; A. R. Palmer, Jackson; Wm. H. Marks, Fair Haven; C. L. Wright, Caro; E. W. Woodruff, Blanchard.

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.

FARMERS' CLUB INSTITUTES.

In the club discussions of this issue will be found several references to institutes which will be held under the auspices of some local club or clubs in the near future. Other clubs are planning to take part in the county institutes as organizations. Plans of the kind referred to can not prove otherwise than beneficial to the clubs carrying them out, both in the increased public interest which will be taken in the clubs and their work and in the good which will be done to the community at large, in which the clubs are located. Some of the very best farmers' institutes which it has been the writer's privilege and pleasure to attend, were held under the auspices of the local farmers' club in some community. It will generally be possible to secure state speakers for institutes of this kind, and the program can be arranged with a view to the needs and interest of the local agricultural community in a way which does not always obtain with the farmers' institute conducted by the state or the local institute society. There are in every community farmers who excel in some particular branch of agriculture who would be glad to give the benefit of their experience to others at an institute of this kind. There are nearly always young people in every community who can entertain nicely in the literary and musical numbers which should intersperse an institute program. This is a plan which would be well worthy of the attention of every farmers' club in the state, and the carrying out of such a plan would most surely cause an increase in the club membership and an activity in club work which would prove most beneficial all along the line.

CLUB DISCUSSIONS.

Yearly Programs and Institute.—The Hadley and Elba Farmers' Club met at "Home Farm," with Mr. and Mrs. C. A. Bullock. Nearly 80 were present in spite of the storm and every one full of enthusiasm over Club work for 1910. The Club voted to have printed yearly programs, 12 meetings in the year, and an oyster dinner at "Hickory Ridge," the home of Mr. and Mrs. Robert Pierson, on Feb. 17. A cordial invitation is extended to all for this meeting and each succeeding one. Arrangements were made for the Lapeer County Round-Up to be held in Hadley, Feb. 4 and 5. We hope to have a large attendance and an enthusiastic institute. Any wishing conveyance from the station communicate with T. A. Mott, Metamora, chairman of transportation committee. —Mrs. C. P. Johnson, Sec.

Annual Oyster Dinner.—The Ray Farmers' Club held their annual oyster dinner in the hall at the Ray Union Church, on Thursday, Jan. 13. After nearly 75 people had partaken of the oysters and other good things, they gathered in the auditorium for the meeting which was called to order by the president. An interesting report of the State Association was given by our delegate, Geo. Graham. Miss Elvira Freeman read "Sally Ann's Experience," which was enjoyed by all. The Club adjourned to meet the second Thursday in February with Mr. and Mrs. C. J. Hartway. —Hazel M. Green, Cor. Sec.

Review and Preview.—The 23rd annual meeting of the Columbia Farmers' Club was held with Mr. and Mrs. Wilson Neely in the village of Brooklyn, Jan. 8, with a large attendance. The reports of the secretary and treasurer were read, and the following officers were elected: President, C. J. Harper; vice-president, Mrs. Sumner Ladd; secretary, Mrs. Flora Vining; treasurer, Mrs. E. N. Palmer; reporter, Mrs. A. W. Dunn; chaplain, Frank Ball. Dr. E. N. Palmer gave a very interesting paper, "Review and Preview." In his review he recalled primitive methods of work, contrasting sharply with those of today, and in his preview he gave a glowing picture of the conditions in the year 2,000. Whether the prophecy will be fulfilled is yet to be seen. Mrs. C. H. Hewitt read an excellent paper, "Short Sketches of the Lives of our Deceased Members," in which a glowing tribute was paid to those of our number who have answered the final roll call. The program was interspersed with

music, both vocal and instrumental. A letter was read to the Club and it was voted that we send it; the letter is as follows: To the board of directors of the Michigan State Fair Association. Gentlemen:—"Believing, as we do, that the state of Michigan, with its resources of wealth is capable of holding a successful fair without the sale of intoxicants on its grounds, we as a farmers' club of this great state, do earnestly request that you will consider the prohibition of the liquor traffic." Signed in behalf of the Columbia Farmers' Club, Jackson county. The executive committee will meet with President and Mrs. C. J. Harper to prepare the programs for the coming year.—Mrs. Flora Vining, Sec.

Will Hold Institute.—The Salem Farmers' Club held the first meeting of the new year at the pleasant home of Mr. and Mrs. Bert Nelson. Eighty guests and members of the Club assembled and spent a very enjoyable day. Music, select readings and recitations were given; then followed the report of the delegates to Lansing, Mr. and Mrs. Gilbert Thompson. A vote of thanks was given the delegates and their report was much enjoyed. The different points, as given, were discussed by the Club, especially the good roads subject. The Club will hold a temperance day, also young peoples day. President Ross gave the Club his annual address, which was good and much enjoyed. The Club voted to hold an institute in February in charge of Herbert Smith of the county work. Table committee, Mr. and Mrs. Naylor and Mr. and Mrs. H. W. Smith.—H. C. Thompson, Rep.

Elect new Officers.—Riverside Farmers' Club elected the following officers for the ensuing year: President, Geo. Detwiler; vice-president, Clarence Case; secretary, Mrs. C. C. Chandler; treasurer, Mrs. John Shaffer; reporters, Mrs. Matthews and Mrs. G. Kentfield; organist, Mrs. A. C. Dynes; chaplain, Mr. Sheffler; program committee, Mrs. Hensper, Mr. Shaffer, Mrs. Sheffler; rec. committee, Mrs. Kentfield, Mrs. Gerow and Mr. E. Black; sick committee, Mrs. Norton, Mrs. Wright, Mrs. Schroder; flower committee, Mrs. F. M. Crowe, Mrs. Leffingwell, Mrs. Lawrence; chairman of question box, Mrs. Clarence Case. The January meeting was held at the pleasant home of Mr. and Mrs. John Norton. After partaking of a splendid menu, the president called the meeting to order, opening with song by the Club. The secretary's annual report was read and accepted, as was the treasurer's report. The reports showed the Club to be in a splendid financial condition. Mrs. Chandler gave a report of the State Association of Farmers' Clubs which was held in Lansing, December 7-8, 1909.

Interesting Discussions.—Address by G. A. Young, general secretary of the Y. M. C. A. We only wish that more of our young men had heard it. "Does it pay to advertise?" by Mrs. John Dynes. She said it certainly did pay. How would we know what the merchant had to sell if he didn't advertise. "Close stabling, does it pay?" This question was discussed at length by the gentlemen present. "The value of time," by Mrs. Charles Lawrence. She stated that the value is inestimable for it is the span that links us individuals into the great unknown, and the mysterious beyond. February meeting will be held with Mr. and Mrs. A. M. Billmer.—Mrs. C. C. Chandler, Sec.

Much Interest in First Meeting for 1910.—The Hartland Farmers' Club held its first meeting of the new year on Jan. 8, at the pleasant village home of Mr. and Mrs. James Brian. The day was all one could wish for, with all nature clothed in its robes of white. Farmers came in sleighloads until 80 jolly guests were seated to partake of the bountiful repast prepared for them. After dinner the meeting was called to order; singing by the Club; prayer was then offered by the chaplain, and the business portion of the Club work was taken up. We find ourselves the happy possessors of fifty new chairs. A very interesting report of the State Meeting at Lansing was given by our delegate, H. W. Clark. An interesting program was then carried out, after which we adjourned to meet with Mr. Fred Huskinson and sister, Feb. 5, 1910. —Cor. Sec.

Add Four New Members.—Sherman Farmers' Club met Saturday, Jan. 15, at the home of Mr. and Mrs. J. Kemperman, there being about 40 present. A musical entertainment was given while dinner was being prepared. Dinner was served and enjoyed by all, after which the meeting was called to order by the president. There being an invitation given to the visitors to join our Club, we were glad to welcome four new members to our Club. The meeting then adjourned to meet with Mr. and Mrs. Joseph Hoppa on the third Saturday of February.—Blanch Carter, Cor. Sec.

Have Excellent Report of State Meeting.—Mr. and Mrs. D. K. Hanna entertained the Ellington-Almer Club at their home in Ellington, Thursday, Jan. 13, at which a full delegation of members were present. After the serving of dinner a program of song and topics was concluded by the report of C. L. Wright, delegate to the State Convention at Lansing. Mr. Wright being an exceptionally fine speaker and well versed in parliamentary law, gave as brilliant a report as any ever heard in our state halls. He treated the Club to a synopsis of every resolution and paper delivered, (without notes), and also declared the government's stand for a limited "Parcels Post" and defended the untimely great need of a code of Postal Banking deposits that will insure absolute security to the depositor, as against the lax methods of the present day and system. The report was accepted with a vote of thanks for the splendid record made by Mr. Wright in behalf of the Club. Expressions of inquiry and sympathy were drawn up in behalf of Mr. G. S. Earle, who has been in the hospital at Orion for treatment.—Mrs. C. L. Wright, Sec.

MARKETS

DETROIT WHOLESALE MARKETS.

January 26, 1910.
Grains and Seeds.

Wheat.—The liquidation which followed the heavy receipts of a week ago, in the northwest and southwest wheat sections and other bearish news, was stopped to a considerable extent by a cessation of offerings from farmers, the low price discouraging their desire to let the wheat go on the market. On Saturday the prices reached were as high as they have been this year. A decline, however, occurred at Monday's and Tuesday's sessions; prices, however, were not as low as on the corresponding days of the week before. This week primary receipts were much below those of the previous week, but slightly larger than the offerings for the same date a year ago. While the local mills are temporarily supplied with wheat, outside manufacturers of flour are taking all the cash grain they can get hold of. One year ago we were paying \$1.07 1/4 per bushel for No. 2 red wheat. Quotations for the week are as follows:

	No. 2	No. 1	Red.	White.	May.	July.
Thursday	1.24 1/2	1.24 1/2	1.25 1/2	1.04 1/2		
Friday	1.26	1.26	1.26 1/2	1.05 1/2		
Saturday	1.27	1.27	1.27 1/2	1.06		
Monday	1.25 1/2	1.25 1/2	1.26 1/2	1.05		
Tuesday	1.25 1/2	1.25 1/2	1.26 1/2	1.05		
Wednesday	1.26 1/2	1.26 1/2	1.27 1/2	1.05 1/2		

Corn.—The basis for business in this department is little changed from a week ago. The average price is a fraction of a cent lower. The visible supply of corn shows a decrease of but a few thousand bushels during the week. The local receipts were large on Monday and Tuesday. The demand is still strong and will undoubtedly continue so thruout the season. One year ago No. 3 corn was quoted at 61 1/2 c. Quotations are as follows:

	No. 3	Yellow.
Thursday	67 1/2	68 1/2
Friday	68	69
Saturday	68 1/2	69 1/2
Monday	67 1/2	68 1/2
Tuesday	67 1/2	68 1/2
Wednesday	67 1/2	68 1/2

Oats.—Prices have not varied much in this deal, and practically the same basis is maintained as prevailed a week ago. The demand continues strong and the stock of oats is limited with not very heavy receipts from farming communities. Transactions are small. One year ago the price for No. 3 white oats was 35c. Quotations are as follows:

	Standard.
Thursday	50 1/2
Friday	50 1/2
Saturday	50 1/2
Monday	50
Tuesday	50 1/2
Wednesday	50 1/2

Beans.—The nominal quotations given at the close of the bean market a week ago have remained unchanged. There is no trading reported and those inquiring about the situation are almost entirely buyers, the sellers feeling safe in holding their stocks for still higher values. It is anticipated that the demand for beans will be increased by the boycott on meat. Quotations for the week are as follows:

	Cash.	March.
Thursday	\$2.12	\$2.20
Friday	2.12	2.20
Saturday	2.12	2.20
Monday	2.12	2.20
Tuesday	2.12	2.20
Wednesday	2.15	2.20

Cloverseed.—The prices have changed during the week and a fair amount of business is being done for this season. It is expected that a little later demand will increase as farmers call for seed for early spring sowing. Quotations are as follows:

	Prime Spot.	Mar.	Alsike.
Thursday	\$8.90	\$8.95	\$7.75
Friday	8.95	9.00	7.75
Saturday	8.95	9.00	7.75
Monday	8.95	9.00	7.75
Tuesday	8.75	8.80	7.75
Wednesday	8.75	8.80	7.75

Rye.—Market is 1 1/2 c. higher. Demand is moderate and steady. No. 1 is quoted at 84 1/2 c per bushel.

Visible Supply of Grain.

	This week.	Last week.
Wheat	26,265,000	26,248,000
Corn	9,986,000	10,142,000
Oats	9,118,000	9,542,000
Rye	749,000	819,000
Barley	2,485,000	2,474,000

Flour, Feed, Provisions, Etc.

Flour.—Demand is active at unchanged prices. Quotations as follows:

Clear	6.00
Straight	6.05
Patent Michigan	6.25
Ordinary Patent	6.15

Hay and Straw.—Market unchanged. Quotations are: No. 1 timothy, new, \$15.50 @16; No. 2 timothy, \$14.50 @15; clover, mixed, \$15 @15.50; rye straw, \$7 @7.50; wheat and oat straw, \$6.50 @7 per ton.

Feed.—Steady at last week's values. Demand good. Carlot prices on track: Bran, \$26 per ton; coarse middlings, \$26; fine middlings, \$30; cracked corn, \$28; coarse corn meal, \$28; corn and oat chop, \$26 per ton.

Potatoes.—Nothing of importance has happened in this deal. Prices are unchanged and the movement is slow. Michigan grown are selling in car lots at 33 @36c per bu. in bulk, and in sacks at 30 @40c.

Provisions.—Family pork, \$24.75 @25; mess pork, \$24; medium clear, \$25 @26; pure lard, 14 1/2 c; bacon, 16 1/2 @17c; shoulders, 12 1/2 c; smoked hams, 15 1/2 c; picnic hams, 12 1/2 c.

Hides.—No. 1 green, 10c; No. 2 green, 9c; No. 1 cured, 12c; No. 2 cured, 11c; No. 1 bulls, 11c; No. 2 bulls, 10c; No. 1 green calf, 17c; No. 2 green calf, 15 1/2 c; No. 1

cured calf, 17c; No. 2 cured calf, 15 1/2 c; No. 1 horsehides, \$3.50; No. 2 horsehides, \$2.50; sheepskins, as to wool, 50c @1.50. ~
Dairy and Poultry Products.

Butter.—Creamery butter took a slide on Monday when the Elgin board gave out a quotation which was 6c below the figures of the previous week. It is stated that the recent high prices so restricted consumption that some of the better grades of butter were accumulating. The sudden change will move quickly whatever stocks have piled up, as many who have been eating substitutes will now go back to the more palatable and nutritious butter. Dairy prices are unchanged. Quotations are: Extra creamery, 30c per lb; first do., 29c; dairy, 25c; packing stock, 23c per lb.

Eggs.—Market is steady and prices are unchanged. Fresh eggs are scarce. Current offerings, cases included, are quoted at 32c per dozen.

Poultry.—The prejudice being worked up in the large cities against the meat packers has encouraged the use of fowl and prices have been advanced accordingly. Quotations for the week are: Live—Spring chickens, 15 1/2 @16c; hens, 14 @14 1/2 c; ducks, 15c; geese, 14c; turkeys, 17 @18c. Dressed—Chickens, 16 @17c; hens, 15 @16c; ducks, 17 @18c; geese, 15 @16c; turkeys, 21 @23c.

Cheese.—Steady. Michigan full cream, 16 1/2 c; York state, 18c; limburger, 17c; schweitzer, 21c; brick cream, 18c per lb. **Calves.**—Choice to fancy, 12c; ordinary, 10 @11c per lb.

Dressed Hogs.—Light, \$11 @11.50 per cwt.; heavy, \$10 @10.50.

Fruits and Vegetables.

Cabbage.—Steady. Home-grown, \$1.75 @2 per bbl. **Onions.**—Domestic offerings 70 @75c per bu. Spanish, \$1.35 per crate. **Apples.**—Spy, \$3 @3.50; Baldwin, \$2.50 @3; common, \$1.50 @2.50 per bbl. **Cranberries.**—Cape Cod berries selling at \$2 @2.25 per bu. **Nuts.**—Butternuts, 50 @60c per bu; walnuts, 50 @60c; shell bark hickory, \$1 @1.50.

OTHER MARKETS.

Grand Rapids.

The widespread agitation regarding the high price of meats and food products is having its effect, especially on pork. Dressed hogs were bringing 11 1/2 c last week and are off to 10c this week. Some of the meat dealers are not particular about buying even at that price. Beef is not greatly affected so far and live poultry is unchanged. Creamery butter has made a sensational drop of 5c, while dairy is unchanged. Storage eggs are off 1c, with fresh stock remaining the same as last week. The potato market has improved a little, stock bringing 25 @30c at loading stations.

Quotations follow:
Grain.—Wheat, \$1.22; oats, 49c; corn, 67c; buckwheat, 60c per bu; rye, 70c. Beans.—White machine screened, \$1.85 @1.95; red kidneys, \$2.65 basis. Butter.—Buying prices, Dairy, No. 1, 27c; creamery in tubs or prints, 29c per lb. Eggs.—Fresh, 30c. Apples.—50 @75c. Vegetables.—Potatoes, 40 @50c; onions, 60c per bu; cabbage, 60c doz; parsnips, 50 @60c; beets, 50c per bu; carrots, 40c; turnips, 40c; Hubbard squash, 2c lb; celery, 12 1/2 c; parsley, 20c doz; vegetable oysters, 25c doz. Hogs.—Dressed, 10c. Live Poultry.—Fowls, 12 @13c; roosters, 9 @10c; spring chickens, 13 @14c; spring ducks, 15 @16c; young geese, 12 @13c; young turkeys, 18 @20c.

Chicago.

Wheat.—No. 2 red, \$1.24 @1.26 1/2 c; May, \$1.10 1/2 c; July, \$1.01 1/2 c. Corn.—No. 3, 63 1/2 c; May, 67 1/2 c; July, 67 3/4 c per bu. Oats.—No. 3 white, 47 @48c; May, 47 1/2 c; July, 43 1/2 c.

Butter.—Creamery prices 4c lower than a week ago. Market weak, with receipts running ahead of requirements. Creameries, 25 @30c; dairies, 26 @29c. Eggs.—Market slow despite the fact that best grades have declined 4 @6c since last week. Prime firsts, 32c; firsts, 31c; at mark, cases included, 21 1/2 @27 1/2 c per dozen.

Hay and Straw.—Hay market strong with best timothy showing another good advance. Straw steady to strong. Quotations: Timothy, choice, \$19 @20c; No. 1, \$17.50 @18; No. 2 and No. 1 mixed, \$16.50 @17; No. 3 and No. 2 mixed, \$13.50 @16; rye straw, \$11 @12; oat straw, \$9.50 @10; wheat straw, \$8 @9.

Potatoes.—Supplies liberal and demand apparently affected to some extent by the crusade against high food values. Prices have declined 2c the past week. Choice to fancy quoted at 45 @50c per bu; fair to good, 45 @47c.

Beans.—Steady. Choice hand-picked, \$2.20 per bu; fair to good, \$2.15; red kidneys, \$2.25 @2.90.

New York.

Butter.—Market declined for creameries. Western factory firsts, 24 @25c; creamery specials, 29 @31c.

Eggs.—Prices steady. Market strong. Western extras, 38 @39c; firsts, 36 @37c; fancy refrigerator stock, 25 @28c.

Poultry.—Dressed, firm. Western chickens, broilers, 15 @23c; fowls, 14 @17 1/2 c; turkeys, 22 @25c.

Boston.

Wool.—Agents from small mills are anxious for raw material, fleeces particularly being in demand. The very unusual occurrence of having the bins all cleaned up before the new clip arrives has every prospect of coming to pass this season. Prices are firmly maintained. The following are the leading domestic quotations: Ohio and Pennsylvania fleeces—No. 1 washed, 40 @41c; No. 2 washed, 40c; Jeline washed, 39 @40c; XX, 37 @38c; fine unmerchantable, 31c; half-blood combing, 36 @37c; three-eighths-blood combing, 36 @37c; one-quarter-blood combing, 35c; half, three-eighths and one-quarter clothing, 28 @30c; delaine unwashed, 32c. Mich-

igan, Wisconsin and New York fleeces—Fine unwashed, 25 @26c; half-blood unwashed, 35 @36c; three-eighths-blood unwashed, 35 @36c; half-blood, 33 @34c.

Elgin.

Butter.—Market firm at 30c per lb., which is 6c below the quotation of a week ago.

THE LIVE STOCK MARKETS.

Buffalo.

January 24, 1910.
(Special report by Dunning & Stevens, New York Central Stock Yards, East Buffalo, N. Y.)

Receipts of sale stock here today as follows: Cattle, 185 loads; hogs, 13,600; sheep and lambs, 17,000; calves, 1,200.

The cattle trade today was the worst we have had for some time and prices were generally from 25 @40c per hundred lower than one week ago. There was scarcely any demand at all for the medium and heavy weight cattle and there are a number of loads still unsold. The agitation all over the country in regard to the high price of meats seemed to intimidate the buyers. The markets all over the country seemed to be in the same condition. Good fresh cows and springers today were wanted at strong prices.

We quote: Best export steers, \$6.25 @6.50; best 1,200 to 1,300-lb. shipping steers, \$5.75 @6; best 1,100 to 1,200-lb. do., \$5.40 @5.65; medium 1,050 to 1,100-lb. butcher steers, \$5 @5.25; light butcher steers, \$4.75 to 5; best fat cows, \$4.75 @5; fair to good do., \$4 @4.25; trimmers, \$2.50 @2.75; best fat heifers, (few fancy higher), \$5 @5.25; fair to good do., \$4.25 @4.50; common do., \$3.75 @4; best feeding steers, 950 to 1,000 lbs., \$4.40 @4.65; best feeding steers, 800 to 900 lbs., \$4 @4.25; 700 to 750-lb. dehorned stockers, \$3.75 @4; 600 to 650-lb. do., \$3.25 @3.50; best bulls, \$5 @5.35; bologna bulls, \$3.75 @4; stock bulls, \$3.25 @3.50; best fresh cows and springers, \$5 @6; fair to good do., \$3.50 @4.50; common do., \$2 @3.

With 40,000 hogs reported in Chicago this morning and market 10 @15c lower there our packers were very bearish and held off until late in the day, bidding strong 20 @25c lower than Saturday's best time. They finally took hold and bot at 15 @20c lower on the mixed, medium and heavy. Pigs sold strong 25c lower than Saturday. There were pigs on our market today from nearly all western markets. About everything is sold tonight except a few late arrivals and some light stuff.

We quote: Mixed, medium and heavy, \$8.65 @8.75; best yorkers, \$8.50 @8.60; light yorkers and pigs, \$8.25 @8.35; roughs, \$8.10 @8.15; stags, \$7 @7.25.

The lamb market opened very slow, few of the best lambs selling early at \$8.50 but they closed very dull with the tops at \$8.40. We don't look for any higher prices this week unless runs are very light. The dressed meat trade is in a demoralized condition.

Best lambs, \$8.40 @8.50; fair to good, \$8 @8.35; culls, \$7.50 @7.75; skin culls, \$5.50 to \$6.50; yearlings, \$7.50 @7.75; wethers, \$6 @6.25; ewes, \$5.50 @6; cull sheep, \$3.50 @5; best calves 10 @10.75; fair to good do., \$8 @9.50; heavy, \$4 @5.

Chicago, January 24, 1910.

Cattle, Hogs, Sheep
Received today 27,000 36,000 23,000
Same day last year... 16,685 40,912 10,062
Received last week... 70,151 143,141 77,137
Same week last year... 76,640 209,941 58,259

Cattle receipts last week showed up well in numbers, if not in quality, as compared with recent supplies, altho they ran much behind those for one and two years ago in volume and in average grading. The general demand was irregular, being slow and good at different times, but on the whole trade lacked "snap," and buyers were disposed to make the most of the reports of boycotts on beef and other meats in Ohio and several other states. This is sure to act detrimentally to the cattle trade, but it is believed that cattle that are made good, but not too costly nor too heavy, will net good returns to feeders. There is much less feeding being carried on this winter than usual, and this accounts for the high prices, particularly for choice beefs, which are unusually scarce everywhere. One sale was made last week of Shorthorns and Herefords averaging 1,527 lbs., at \$8.40, there being 17 head, but the next best sale was \$7.75, and the larger part of the steers went at \$5.25 @6.60, not much being done above \$7, and the poorer lots of light-weight steers bringing \$4.25 @5.25. The best demand is for a pretty good class of cattle at \$6 @6.50, and it does not take many choice steers to go around. Cows and heifers have sold very fairly at \$3.20 @6, canners and cutters selling at \$2 @3.15 and bulls at \$3.20 @5.40. Calves were taken freely at \$3.50 @10 per 100 lbs., and milch cows were in fair supply and demand once more at \$25 @65 each. Fair animation characterized the trade in stockers and feeders, the former going at \$3 @4.40 and the latter at \$4.50 @5.40. The general trend of the market for beef cattle and ordinary stockers has been in the downward direction.

Last week's average decline of 15c in beef cattle was followed today by a similar break, the general demand being extremely poor. A few steers sold up to \$7.75. Prospects for high prices looked discouragingly.

Hogs were marketed freely on Monday last week, but subsequently there was a marked falling off in the receipts, owing to the fact that prices were headed in a downward direction much of the time. At first eastern shippers bot liberally, but later their operations were enough smaller to bring about lower prices all along the line, and hogs costing country buyers \$8 @8.40 had to be closed out at prices that left them no satisfactory trading margin. Farmers throughout the country owning hogs of marketable size were not disposed to sell on

a lower basis than they have been doing, and the outlook pointed to smaller supplies for the market until the decline has been regained. Farmers have been marketing a large share of the recent supply, country shippers experiencing a great deal of difficulty in securing cars from the railroads. Provisions weakened with hogs, but showed good rallying power later on account of the greatly reduced hog receipts at western packing points compared with a year ago. Heavy stags sold at \$9.25 @9.75, and good pigs sold relatively well. Hogs declined sharply today under a very poor demand, sales ranging at \$8.10 @8.60.

Sheep and lambs brot extremely high prices last week, notwithstanding weakness and declines part of the time, the offerings of fat stock not being of sufficiently large proportions to meet the large local and eastern demand. Lambs sold especially well, as usual, sellers paying \$6 @8.85 per 100 lbs. for inferior to prime lots, while the few western feeding lambs offered found ready buyers at \$7 @7.65, with a few lots of clipped mutton lambs offered at \$7.50 @8.20. Wethers have been selling at \$5 @6.25, with a few natives going in odd lots at \$6.30 @6.50, while ewes sold at \$3.25 @6 and bucks and stags at \$3.50 @5. Yearlings were taken readily at \$6 @8.25, heavy lots selling the lowest, while the best light lots on the lamb order topped the market, as usual. Sheep and lambs today was very slow at average declines of \$15 @20c.

HALF A GRAIN KILLS

One-half grain of "Rough on Rats" will kill a Rat. One 25c. box of Rough on Rats holds at least 1,600 grains; this means that a 25c. box contains enough poison, if properly mixed with something they will eat, to kill 3,000 or more Rats and Mice or thousands of Roaches, Ants, Beetles and Bed Bugs. It is not poisonous to handle, only so when eaten. Being powerful, it should not be mixed too strong. Let the food used predominate largely, about 1 to 20. Read all directions carefully. The one important thing is to see it is well mixed and thoroughly incorporated with the food used, and change the food used from time to time.

DO YOUR OWN MIXING

Beware of substitutes, the catch penny ready-for-use things. Rough on Rats is no experiment. It has a reputation, is recognized all around the world as "the old reliable," the "unbeatable exterminator," is being used by Cities, States and Governments to stamp out the Bubonic Plague. When buying an exterminator you want the killing merit. Every experienced, disinterested dealer will tell you Rough on Rats has no equal. Being all poison, one 15c. box, our smallest size, mixed with something they will eat, contains enough poison to make or spread 50 to 100 or more little cakes or bits that will, when divided, kill 500 or 1,000 or more Rats and Mice. Not poisonous to handle, only so when eaten. Try it for Roaches and Beetles, mixed 1 to 30 of mashed potatoes. Look out for imitations. Refuse substitutes that may be offered you. 15c., 35c. & 75c., at Druggists. Economy in the largest sizes. Don't die in the house.

E. S. WELLS, Chemist, Jersey City, N. J.

Save \$10 Ton on Feed.

CUDDOMEAL
A COTTON SEED FEED

Contains 15 to 18 per cent protein, 6 per cent fat; three times more protein than corn; 60 per cent more than wheat bran.

It's an excellent milk producing feed; a flesh producer for steers and sheep.

It's cheaper than bran. Costs \$10.00 to \$15.00 ton less than oil meal.

E. A. Stevenson, of Port Huron, who fed one car load of Cuddomeal last year and has bought two car loads so far this season, says "excellent results are obtained from feeding Cuddomeal both to milk cows and to growing steers."

A. E. Pierce, of Tecumseh, Mich., a sheep feeder who tried one ton in October, then bought a full car load, says "Cuddomeal is a satisfactory sheep feed."

INVESTIGATE. Try it. Feed one ton, then you will buy more.

Present price \$23.00 per ton F. O. B. Jackson; \$25.00 per ton freight prepaid to any town in Michigan, Indiana, & Ohio. Mail Check or Money Order for sample ton.

THE BARTLETT COMPANY

Cotton Seed Products. Jackson, Mich.

Seeds Wanted

Clover Seed, Soy Beans, Michigan Favorite Cow Peas, Millet, Late Petoskey Potatoes.

Growers wanted for Soys and Cow Peas.

EDW. E. EVANS, West Branch, Michigan.

FOR YOUR HIDE'S SAKE

Have it tanned with the hair on for coat, robe or rug. Send for price list. We pay freight both ways if four hides are sent at one time.

THE WORTHING & ALGER CO., Hillsdale, Mich.

FUR COATS and ROBES

Send postal for prices on TANNING HIDES and MANUFACTURING COATS and ROBES.

MOTH PROOF TANNING CO., Lansing, Mich.

WANTED—FURS and HIDES.

We pay you the price on our list No more No less! Write for price list and tags. H. M. PETZOLD, 1083 S. Claremont Ave., Chicago, Ill.

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.

January 20, 1910.

Cattle.

Receipts, 805. Market steady at last week's prices on all grades.

We quote: Best steers and heifers, \$5.50@5.75; steers and heifers, 1,000 to 1,200, \$5.25@5.50; steers and heifers, 800 to 1,000, \$4.75@5.10; steers and heifers that are fat, 500 to 700, \$3.50@4.25; choice fat cows, \$4@4.75; good fat cows, \$3.50@3.75; common cows, \$2.50@3.25; canners, \$2@2.50; choice heavy bulls, \$4.50@5; fair to good bolognas, bulls, \$3.75@4.25; stock bulls, \$3.50; choice feeding steers, 800 to 1,000, \$4.50@4.65; fair feeding steers, 800 to 1,000, \$4@4.25; choice stockers, 500 to 700, \$3.75@4; fair stockers, 500 to 700, \$3.25@3.50; stock heifers, \$3@3.25; milkers, large, young, medium age, \$4@60; common milkers, \$25@35.

Bishop, B. & H. sold Newton B. Co. 2 cows av 865 at \$3, 1 do weighing 1,080 at \$4.50, 5 butchers av 810 at \$4.65; to Hupp 16 steers av 763 at \$5.10; to Sullivan P. Co. 1 cow weighing 1,000 at \$3.50, 1 bull weighing 550 at \$3.50, 1 do weighing 1,370 at \$4.50, 3 do av 1,243 at \$4.50, 20 butchers av 771 at \$4.75, 2 bulls av 775 at \$4, 1 do weighing 1,220 at \$4.50, 1 do weighing 1,460 at \$5, 3 butchers av 916 at \$4.50, 2 cows av 1,160 at \$3.50, 3 do av 916 at \$3; to Mich. B. Co. 10 steers av 778 at \$4.80, 10 do av 980 at \$5.60; to Newton B. Co. 3 cows av 836 at \$2.75, 18 steers av 842 at \$5, 20 do av 652 at \$4.50, 1 cow weighing 950 at \$3.75; to Fromm 3 steers av 586 at \$4.15; to Newton B. Co. 1 cow weighing 950 at \$4, 1 do weighing 920 at \$3, 11 butchers av 680 at \$4.50; to Schuman 5 steers av 704 at \$5, 1 do weighing 1,230 at \$6.25; to Thompson 1 cow weighing 1,020 at \$3.85; to Newton B. Co. 12 steers av 1,081 at \$5.50, 4 cows av 975 at \$4.75, 4 do av 1,060 at \$4, 1 do weighing 1,170 at \$3.25, 1 do weighing 910 at \$2.50.

Spicer & R. sold Mich. B. Co. 1 bull weighing 1,200 at \$4.50, 1 do weighing 1,500 at \$4.50, 1 do weighing 1,320 at \$4.50, 1 cow weighing 1,090 at \$4.50, 9 butchers av 813 at \$4.50; to Kull 9 steers av 942 at \$5.25, 1 cow weighing 850 at \$4, 5 butchers av 668 at \$4.50; to Cook 5 steers av 916 at \$5.35; to Sullivan P. Co. 1 cow weighing 1,030 at \$4, 8 steers av 900 at \$5.50, 9 cows av 822 at \$4, 1 do weighing 860 at \$3, 2 do av 945 at \$3.50, 5 do av 834 at \$3.25, 1 do weighing 940 at \$3.75, 1 bull weighing 1,350 at \$4.75, 1 do weighing 1,040 at \$4.50, 2 do av 1,325 at \$4.50, 7 butchers av 615 at \$4.25, 3 do av 633 at \$4.50; to Bresnahan, Jr. 8 do av 590 at \$4.25; to Breitenbach Bros. 8 do av 700 at \$4.60, 12 do av 783 at \$4.60, 1 cow weighing 980 at \$3.25, 4 steers av 970 at \$5.50, 1 heifer weighing 700 at \$4; to Watts 6 stockers av 555 at \$4.25, 3 feeders av 766 at \$4.75; to Lachalt 13 butchers av 751 at \$4.65; to Kamman 17 do av 675 at \$4.50; to Goose 1 cow weighing 1,020 at \$3.80; to Fitzpatrick Bros. 9 steers av 933 at \$5.75, 14 do av 725 at \$4.40, 2 cows av 1,130 at \$4.40, 3 steers av 950 at \$5.40, 1 cow weighing 1,100 at \$3.50.

Haley & M. sold Kamman 9 steers av 1,076 at \$5.65, 4 cows av 1,080 at \$3.80, 2 do av 830 at \$3.25, 1 heifer weighing 500 at \$4; to Fromm 1 bull weighing 660 at \$3.40; to Thompson 1 do weighing 1,350 at \$4.75; to Breitenbach Bros. 5 butchers av 812 at \$4.50, 19 steers av 823 at \$5; to Newton B. Co. 1 cow weighing 850 at \$3, 2 do av 965 at \$3.25, 3 do av 1,073 at \$4.25, 2 steers av 965 at \$5.15, 4 do av 652 at \$4.50; to Sullivan P. Co. 2 oxen av 1,450 at \$4.25, 2 cows av 730 at \$3.25, 1 heifer weighing 770 at \$4.50, 1 cow weighing 780 at \$3, 10 heifers av 515 at \$3.90, 3 cows av 680 at \$2.75.

Roe Com. Co. sold Goose 4 butchers av 325 at \$3.75, 4 cows av 950 at \$3.75; to Mich. B. Co. 1 do weighing 990 at \$3, 1 do weighing 1,000 at \$3; to Fitzpatrick Bros. 4 do av 1,042 at \$4.25; to Rattkowsky 2 do av 1,110 at \$3.50, 1 bull weighing 1,080 at \$4.75.

Carmody sold Hammond, S. & Co. 1 bull weighing 1,680 at \$4.80.

Veal Calves.

Receipts, 343. Market steady at last week's prices. Best, \$9@10; medium and common, \$4@8.50; milch cows and springers steady.

Spicer & R. sold Street 1 weighing 130 at \$8.50, 5 av 125 at \$9.50; to Mich. B. Co. 14 av 140 at \$3.75, 8 av 130 at \$9, 2 av 175 at \$5.50, 4 av 145 at \$9; to Fitzpatrick Bros. 4 av 110 at \$5, 8 av 125 at \$8; to Newton B. Co. 7 av 130 at \$9.

Glenn sold Street 5 av 135 at \$9.

Harger & A. sold same 2 av 135 at \$5.

Wagner sold Newton B. Co. 2 av 105 at \$6, 11 av 150 at \$9.25.

Hertler Bros. sold Strauss & A. 4 av 155 at \$9.40.

Roe Com. Co. sold Hammond, S. & Co. 1 weighing 160 at \$9.50, 6 av 108 at \$8; to Breitenbach Bros. 20 av 145 at \$8; to Fitzpatrick Bros. 17 av 150 at \$8.25.

Haley & M. sold Burnstine 6 av 85 at \$8.50, 19 av 130 at \$8.50; to Mich. B. Co. 6 av 155 at \$8.80.

Mayer sold McGuire 3 av 160 at \$9.25, 2 av 120 at \$6.

Bishop, B. & H. sold Nagle P. Co. 6 av 125 at \$9; to Sullivan P. Co. 5 av 160 at \$9, 7 av 100 at \$6; to Strauss & A. 1 weighing 160 at \$10, 3 av 165 at \$10, 3 av 120 at \$7; to Mich. B. Co. 12 av 125 at \$9.25; to Strauss & A. 2 av 100 at \$6, 9 av 150 at \$9.50, 6 av 115 at \$9, 2 av 140 at \$9.50; to Hammond, S. & Co. 8 av 135 at \$8.50, 1 weighing 170 at \$10, 1 weighing 90 at \$6, 4 av 120 at \$9, 4 av 140 at \$9.50, 1 weighing 120 at \$8.50.

Sheep and Lambs.

Receipts, 3,308. Market 10@15c lower than last week.

Best lambs, \$8.25@8.30; fair to good lambs, \$7.50@8; light to common lambs, \$6.50@7; yearlings, \$6.75@7.25; fair to good sheep, \$4.50@5.50; culls and common, \$3.50@4.

Haley & M. sold Mich. B. Co. 3 sheep av 160 at \$4, 18 lambs av 82 at \$7.85, 49 do av 70 at \$7.75, 20 sheep av 105 at \$5, 16 do av 110 at \$4.75.

McBride sold Newton B. Co. 14 lambs av 83 at \$8.20, 1 sheep weighing 110 at \$4, Carmody sold same 15 lambs av 45 at \$5, 55 do av 55 at \$7.

Mayer sold Mich. B. Co. 14 sheep av 63 at \$4.50, 35 lambs av 75 at \$8.15.

Groff sold Thompson 8 yearlings av 125 at \$5.60.

Harger & A. sold Nagle P. Co. 75 lambs av 70 at \$8.

Same sold Hertler 34 sheep av 85 at \$4.40.

Youngs sold Sullivan P. Co. 16 sheep av 105 at \$4.50.

Sheep and lambs closed 10c lower than opening prices.

Hogs.

Receipts, 1,670. Pigs steady; other grades 10@15c lower than last Thursday.

Range of prices: Light to good butchers, \$8.50@8.65; pigs, \$8.25@8.40; light yorkers, \$8.40@8.50; stags, 1/2 off.

Roe Com. Co. sold Sullivan P. Co. 254 av 200 at \$8.65, 78 av 190 at \$8.60, 22 av 150 at \$8.50, 7 av 225 at \$8.70.

Haley & M. sold Parker, W. & Co. 170 av 185 at \$8.70, 120 av 170 at \$8.65, 89 av 160 at \$8.60.

Spicer & R. sold same 450 av 190 at \$8.70, 150 av 175 at \$8.65.

Sundry shippers sold same 250 av 170 at \$8.65.

Bishop, B. & H. sold Hammond, S. & Co. 594 av 185 at \$8.70, 404 av 170 at \$8.65, 54 av 160 at \$8.60, 26 av 150 at \$8.50.

Friday's Market.

January 21, 1910.

Cattle.

The market opened at the Michigan Central stock yards Friday with a fair run of cattle for Friday on sale, and a fairly good trade for common grades of cow stuff, light butchers and bulls, but good grades selling from \$5 a hundred upward were dull and strong 25@30c lower than on Thursday and the close on this class was the worst in some time.

Best steers and heifers, \$5.40@5.50; steers and heifers, 1,000 to 1,200, \$5@5.40; steers and heifers, 800 to 1,000, \$4.50@5; steers and heifers that are fat, 500 to 700, \$3.75@4.25; choice fat cows, \$4.50; good fat cows, \$3.50@4; common cows, \$3@3.25; canners, \$2.50@3; choice heavy bulls, \$4.50@4.75; fair to good bolognas, bulls, \$4@4.25; stock bulls, \$3.50@4; choice feeding steers, 800 to 1,000, 4@4.50; fair feeding steers, 800 to 1,000, \$3.75@4; choice stockers, 500 to 700, \$4@4.25; fair stockers, 500 to 700, \$3.50@4; stock heifers, \$3.50@4; milkers, large, young, medium age, \$40@55; common milkers, \$25@35.

Bishop, B. & H. sold Rattkowsky 1 cow weighing 670 at \$3, 1 bull weighing 710 at \$4, 6 butchers av 990 at \$4.60; to Sullivan P. Co. 4 steers av 902 at \$5, 13 heifers av 777 at \$4, 1 cow weighing 700 at \$2.75, 1 bull weighing 900 at \$4.25, 2 cows av 1,190 at \$4.25, 7 butchers av 613 at \$3.75, 3 bulls av 1,186 at \$4.50, 2 cows av 965 at \$3.50, 3 do av 950 at \$3.50, 2 bulls 1,140 at \$4.25, 1 do weighing 1,060 at \$4.50; to Johnson 9 steers av 952 at \$5, 5 do av 971 at \$5.40, 4 do av 1,000 at \$5.35, 1 do weighing 1,180 at \$4.50; to Heinrich 13 do av 960 at \$5.50, 11 do av 660 at \$4.25; to Mich. B. Co. 2 do av 790 at \$5, 5 cows av 896 at \$3.50; to McCormick 4 cows av 1,025 at \$3.60, 8 steers av 913 at \$5.

Spicer & R. sold Schlischer 12 butchers av 720 at \$4.30.

Veal Calves.

The run of veal calves was light and the market was full steady with Thursday. Best grades, \$9@10; others, \$5@8.

Bishop, B. & H. sold Strauss & A. 5 av 125 at \$7.

Haley & M. sold same 12 av 135 at \$9.25.

Spicer & R. sold same 7 av 140 at \$9.50, 9 av 135 at \$9.50.

Bishop, B. & H. sold Nagle P. Co. 7 av 120 at \$8, 3 av 140 at \$7, 10 av 129 at \$9.50, 21 av 130 at \$9.50.

Spicer & R. sold Rattkowsky 3 av 130 at \$7.50, 1 weighing 100 at \$7.50.

Roe Com. Co. sold Sullivan P. Co. 4 av 160 at \$10, 3 av 105 at \$6.

McCormick sold same 1 weighing 160 at \$4, 3 av 105 at \$7.75.

Sheep and Lambs.

The sheep and lamb trade was active, but prices averaged 10@15c lower than on Thursday, bulk of the good ones selling at \$8@8.15, with a few extra fancy at \$8.25.

Best lambs, \$8@8.25; fair to good lambs, \$6.50@7; light to common lambs, \$5.50@6; yearlings, \$7@7.25; fair to good sheep, \$4@5; culls and common, \$2.50@3.

Spicer & R. sold Mich. B. Co. 50 lambs av 60 at \$7.40.

McCormick sold same 49 do av 60 at \$6.75.

Bishop, B. & H. sold same 43 sheep av 110 at \$4.25.

Same sold Swift & Co. 18 sheep av 110 at \$5, 26 do av 115 at \$5, 39 lambs av 80 at \$8.15.

Spicer & R. sold Sullivan P. Co. 14 lambs av 60 at \$7.50, 1 sheep weighing 110 at \$4.

Roe Com. Co. sold same 9 do av 140 at \$5.

Bishop, B. & H. sold Nagle P. Co. 14 lambs av 75 at \$7.50, 174 do av \$5 at \$8.25.

Waterman sold same 324 do av 80 at \$8.15.

Spicer & R. sold Youngs 42 lambs av 776 at \$8.15.

Same sold Hammond, S. & Co. 3 sheep av 100 at \$4.50, 10 lambs av 45 at \$6, 48 do av 60 at \$7.50.

Bishop, B. & H. sold same 51 lambs av 80 at \$8.10.

Hogs.

In the hog department the market was 5@10c lower than on Thursday the best bringing \$8.65.

Light to good butchers, \$8.60@8.65; pigs, \$8.25@8.35; light yorkers, \$8.50@8.60; stags, 1/2 off.

Bishop, B. & H. sold Parker, W. & Co. 290 av 190 at \$8.65, 265 av 175 at \$8.60.

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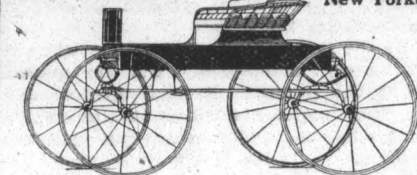
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OF INTEREST TO WOMEN

Set good Example by Respecting the Law.

There is no class of men in Michigan who take a keener interest in the laws of the state than the dwellers in rural districts. For years a large per cent of the legislators have been farmers. They have helped to pass fairly good laws, and as a rule, have lived up to the laws they helped to frame with better grace and spirit than have the dwellers in cities. They have lived up to these laws in most cases because they were law-abiding citizens, but like the rest of mankind, partly because the laws did not interfere with them, and they would have done anyway the things the law commanded.

But one law has been passed recently which has caused a great deal of dissatisfaction among farmers, and has in some places led to open defiance. I refer to the compulsory school attendance law. This law has caused more complaints from parents, more trouble to teachers and more general fault finding all around than almost any other law of recent years.

As it now stands the law provides that all children between the ages of six and sixteen years must attend the public schools during the entire school year unless they are in a parochial school, are taught by their parents at home, or have a written expression from a physician that they are physically unable to attend school. The law, to make sure no one will twice try to evade it, provides strict penalties for any act of disobedience. Any parent who keeps his child out of school for more than three consecutive days is dealt with immediately. The teacher is compelled to report such absences to the inspector or run the risk of having her certificate revoked. The inspector reports to a deputy sheriff, who has been delegated to act as truant officer, and the officer hales the guardian into court to receive a stiff fine.

Imagine the consternation among many fathers of husky lads of fourteen and fifteen years who have been accustomed to keep their boys out of school to help them in busy seasons. To many the law has proven an actual hardship, with help hard to find, and sometimes money not in sight to pay help if one could get it. No wonder there has been complaining and threats of disobedience, not to mention actual defiance. But as the defiance has usually been promptly punished, parents have contented themselves with condemning the law.

Teachers have been criticised harshly before the children in many cases, with a consequent weakening of discipline; because the child feels his parent rather upholds him in censuring if not in disobeying his teacher. And yet the teacher has no choice but to report absences if she wants to continue her occupation as pedagogue. If the law were more thoroughly understood in this respect, as well as in

all its measures, a great deal of the dislike felt for it would pass away. For instance, there is a provision which is taken advantage of in some districts, and seems never to have been heard of in others; namely, that parents who actually need the help of their children in the busy season may secure a written permit signed by two of the district officers to keep the child out for a certain length of time.

If these two provisions were fully understood, I believe half the fault finding would pass away. But whether they are understood or not, the law has much to recommend it. In every community there are parents who will keep their children out of school the very day and hour the little ones become large enough to help at home. They argue that their children are their own and they have a right to do as they please with the youngsters. Granted that the children belong to their parents, they belong to themselves and to the commonwealth more, and their right to an education takes precedence over the parents' right to save a few dollars. Such parents must be dealt with and the law was aimed at them. Of course, it hits other parents who are more conscientious, but this can not be helped. Laws must be general, and those who are not great offenders must console themselves with the reflection that the law is "not a terror to good works but to evil."

Even to the parents who are not habitual offenders this law will prove a good thing. There are few parents in any community, city or country, who do not allow their children to stop out of school occasionally. Nothing is harder for the teacher who is trying to keep her classes up to the mark, nor more detrimental to the pupil. A child who is allowed to absent himself from school loses interest in his studies, and soon ceases to care whether he keeps up or not. I believe to this one cause may be traced half the dislike many children hold for school and its duties. The child who is there every day is almost sure to be interested, and no matter how dull he may be he has an advantage over the other boys, however bright, who are in attendance only a part of the time.

So the law is really a wise one when it is thoroughly understood. But no matter what the parents' personal opinion may be, they make a mistake in threatening to disobey it. Children are not nice discriminators. If one law may be disobeyed, why not others, they argue. If we may ignore this school law, let us ignore others we do not like. And thus instead of growing up with respect for the law, they grow up law breakers. If you do not like the law, work for its repeal. But do not, under any circumstances, let your boys and girls hear you say you do not intend to obey it. DOROTHY HUDSPITH.

THE SECOND OF FEBRUARY.

BY EMILY L. RUSSEL.

This day has both an ecclesiastical and a superstitious observance. Following closely on Christmas and Epiphany, it is celebrated in commemoration of the presentation of Christ in the temple, and the purification of the Virgin Mary.

One of the ancient writers says: "The Testification of Christ's true Incarnation was by the Feast of the Purification of the blessed Virgin, observed February 2, when Jesus was presented in the Temple, and proclaimed by Simeon, and Anna to be the Messiah. This Feast was instituted by Justinian the Emperor, Anno Christe, 542."

The popular name, Candlemas, is derived from the ceremony which the Church of Rome prescribes for this day, the blessing of candles by the clergy, and a distribution of them among the people. At Rome the pope officiates at this festival in the beautiful chapel of the vatican.

February derives its name from the Latin verb, februo, to purify, not from the Christian festival, but from the pagan expiatory sacrifices the Romans were accustomed to observe at this season.

Many weather signs have come down to us concerning this date. A popular Scottish rhyme runs thus:

"If Candlemas day be dry and fair,
The half o' winter's to come and mair;
If Candlemas day be wet and foul,
The half o' winter's gone at Yule."

In Germany there are two sayings:

"The shepherd would rather see the wolf enter his stable on Candlemas day than the sun." "The badger peeps out of his hole on Candlemas day, and when he sees the sun shining he draws back."

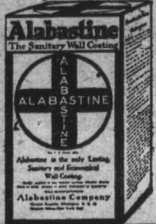
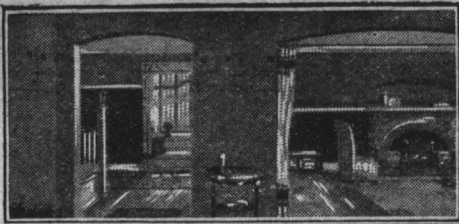
This is like our American ground-hog story, except he ventures forth until frightened by his own shadow; an unfortunate turn of affairs for the boy at the wood pile. We quote from Riley:

"I have jest about decided
It 'ud keep a town boy hoppin'
Fer to work all winter, choppin'
Fer an old fire-place, like I did!
Lauz! Them old times wuz contrairy—
Blamed back bone o' winter, peared like,
Wouldn't break;—and I was skeered like
Clean into February!!
Nothing ever made me madder
Than fer Pap to stomp in, layin'
On a' extra fore stick, sayin'
'Groun' hog's out and seed his shadder."

SALT CURE FOR FELON.

Salt enters into the composition of a home cure for felon. Take common rock salt, dry it thoroly in the oven, pulverize it and mix with an equal amount of spirits of turpentine. Keep a rag saturated with this solution to the affected part for 24 hours and the felon will disappear.

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Home Queries Exchange

Column Conducted By
Elisabeth.

Dear Editor:—Will some one give plain directions for making a rag carpet out of rags of just two colors, say red, brown or black, green, etc.?—H., Holton.

Dear Editor:—Will some of the readers who have directions for knitting or crocheting a man's four-in-hand silk tie, either the tubular or single, that is both pretty and easy to follow, please send them to The Farmer for publication, and oblige, Mrs. J. A. H., Big Rapids.

Dear Elisabeth:—Please tell me the proper way to introduce strangers and what you should say.—J. E., Quincy.

A gentleman should always be introduced to the lady, and a younger man to the older man, also the younger woman to the older woman as, "Miss Smith allow me to introduce Mr. Jones," or "Mr. Brown this is Mr. White," speaking the older man's name first. The same with two women, as "Mrs. B. let me present my friend, Miss A."

You can procure the song, "Rainbow," from any music dealer.

Reader, Elkton:—Any interesting games would do for a valentine party. Use hearts cut from red cardboard to decorate with. If you play cards use heart-shaped score-cards. Have your refreshments follow the same scheme. Your cakes can be made heart-shaped. Use the heart candies to ornament it. Have the table decorated with large hearts cut from paper, and give little valentines for souvenirs. Pretty valentines can be given for prizes and comic ones for booby prizes. The birthstone for February is the amethyst.

T. S., Kingsley:—Soak your corns well in hot water and then carefully cut away all callous skin, rubbing a little salve on afterwards. Do this every few nights, for a time, and it will relieve the pain. For ingrowing toenail, keep the corners of the nail cut out as much as possible, and scrape the nail thin on top, cutting a V-shaped piece out of the center of the nail, at the end. This will draw the edges more towards the center as it grows together. If your sprained ankle does not get stronger, after so many weeks, you had best have a doctor examine it, as there may be a tendon hurt. Keep it bandaged well and keep off of it. A punch bowl is a large glass bowl, holding two or more gallons, and used at parties to serve punch from. Punch is a drink made from fruit juices. The master of ceremonies at a wedding has the entire arrangements in charge. You would have to use your own judgment about serving wine at the wedding. If it is a regular fermented wine and you expect most of your guests to be church members, I would not serve it, coffee will do as well. Yes, it would be served the last thing, with the cake, if you did use it. Have the glasses on the table and fill from the bottle. The plates are placed before the guests and the cake passed to them.

MOTHER AND BOY.

BY GENEVA M. SEWELL.

Some mothers, especially young mothers, feel that to properly guide and guard their children they must always have them with them or know exactly what they are doing every minute. As the children grow older and resent this constant supervision, the motherly heart suffers pain to see them seek friends and occupations in which she can have no share, or perhaps even openly condemn. Such a mother reminds one of the hen and ducklings. Another mother knows nothing of the world in which her children live. If they are promptly home at meals, do not bring bad reports from school, and do not unduly soil their clothing, she does not worry herself about what they do or whom they play with. She has a serene faith in their ability to take care of themselves. It is such mothers who complacently talk about Robert's truthfulness, or Elizabeth's unselfishness, while every other mother in the neighborhood is anxiously planning how to save her children from Robert's and Elizabeth's evil influences in these very respects!

But there is a golden mean between these two extremes. We can guide our children without destroying their individuality or becoming childish ourselves. We are slowly learning that to find out the laws of a child's mind, and to work with them, will accomplish more than all

that the bitter struggles against these laws have ever done. The laws of a child's nature must show plainly in his play, for here he is most untrammelled and natural. Begin with his play and guide him thru it into those lessons you would have him learn.

Here is a rollicking boy, ten or eleven, full of health and spirits. He teases his sisters and torments the cat, and is as impudent to his father as he dare be. What shall we do with him? Punish and repress him? That will make him sour and sullen or sly and deceitful. He is growing, that is all, mentally, physically, morally, and that fills him with restlessness. Give him some worthy work to do with all his energy. Not necessarily work that he likes; he probably at first will not like any steady work, for boys are like unto the lordly Indian, lazy and idle, with spurts of industry for hunting and fighting. Find some work in the household for him to do, suited to his age and capacity, and increase it with his growing strength and wisdom. It may be nothing more than to bring the coal and wood for the family fires, or to mow the lawn or to keep the weeds from certain parts of the garden.

An ingenious mother with her boy's good at heart can find something which will not tax him severely, and yet be worthy the doing. Let it be something that older people need to have done, and then pay him a regular fixed sum per week for doing it. He will make life a burden to his mother for awhile for he will forget and shirk. But he must learn that no work brings no pay and that poor work poor pay. Why shouldn't he learn this in his youth, and not wait until he is crowded to the wall in later years by fierce competition in business? Now, having provided some work for him, with equal heartiness enter into his play. Encourage his ball playing and out-of-door sports. He will do his work promptly if that be the condition for the good ball play afterward. Tell him that when he has saved a dollar that you will double it for something new which he wants.

Do not try to keep him shut up in the house with you. Let him play with the boys. They will not all be good boys. But here your influence and companionship comes in. You must be so interested in and know so much about his play that your influence stands ready to correct and control these outside influences. If you have taught him rightly, at ten or twelve years he ought to have an atmosphere of his own—of truth, honor, uprightness.

Invite his boy companions to your house; provide some simple entertainment for them. Be with them yourself; treat them with the same courtesy you have for older guests, and expect the same in return. Watch and see what attracts him in these boys. Let him feel that you also like them, if you possibly can. If you must criticize and forbid, do it kindly, not sternly. His mother's hearty co-operation and companionship thru everything will turn the energy he now uses in discomfort and mischief into thrift and enterprise. Try this same plan with modifications, for his school work. If he is studying American history or science, think of him in your own reading. Cut out the interesting slips from the newspaper, give him the magazine with the historical story or the vivid pictures.

Tell your boy frankly that he can never take his place in the world as an educated man without a good deal of sheer drudgery. No one ever mastered the multiplication table, or a Latin verb without sheer downright grind. Now will he meet it like a man or shirk it like a coward? Then show him how to go about it.

Do you fear that your boy is learning to read poor stuff? Read some of his books enough to discuss them with him. Ask him why he likes this one better than that. Get the boy's point of view. Talk about the characters with him. Show him the faults, with a discriminating criticism which can see what is good. Otherwise you may find that he will like what you condemn so vigorously, out of pure contrariness. If he does not care for reading at all, rouse him by some of the many good books of adventure. Never mind if they are crude to your more cultivated taste. Laugh and talk about interesting extravagances, it will lead him to discriminate in the future, and he will choose not only what is interesting to him but what is probable or true in preference to the "penny dreadfuls."

How much time and tact and that all this costs, you say. Yes, but that is what we are mothers for. "God could not be everywhere so he made mothers," says the Jewish rabbi.

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The Prescription is Simple; Purify the Blood by Using Stuart's Calcium Wafers—and the Rest is Easy.

If people only realized the utter absurdity of attempting to cure a pimply, blotchy, unsightly complexion by means of the many irrational and illogical methods employed in "beauty parlors," and also in the boudoir, thousands of dollars which are wasted every year—literally thrown away—would be saved, and the complexion rendered clear and free from blemishes through constitutional treatment, at about one-tenth of one per cent of the cost of the "fancy" and exceedingly expensive local "treatments."

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The skin is a water-proof, air-proof envelope over the muscular system, and it has no power to absorb cold creams, or any other medicaments when rubbed over its surface. While, of course, steaming the face, or massaging with electricity, or by hand, will draw the blood temporarily to the surface and produce an artificial glow, which may last half an hour or so, but such treatment brings no lasting benefit, and will never cure wrinkles, pimples, pustules, blackheads, or other facial blemishes.

Besides the frequent treatment of the skin in the way which "beauty doctors" have—those kneading, rubbing, "cooking" methods, making the face for the time being as red as a boiled lobster, also have the very undesirable effect of increasing and strengthening the hair-growth on the cheeks.

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HOME AND YOUTH

GRANDMOTHER'S STORIES.

BY HARRIETTE V. DAVIS.

Arthur's Traps.

We children were always delighted to visit Grandpa and Grandma Severance at any time of the year. We, means Dorothy, aged ten years, Bennie, fourteen, and myself—Marion, you know—sixteen years of age.

There was always something doing on the farm. In the spring there was sap boiling and sugar making. In the summer—I could not tell you half the joys of summer time—wading in the creek, riding on the loads of hay, going blackberrying in the woodlot, and ever so many nice things all thru vacation.

In the fall there were fruits and nuts to gather and the popcorn to husk and put to dry. Then in winter came the long evenings before the open fire, popping corn, eating apples and listening to Grandma's stories. Those stories were the best of all. There were so many things to tell about when they first came to Michigan and the state and its boys and girls were young.

It became a custom for us to, each night, gather round her chair in the gloaming and listen to a story. Grandma allowed us to take turns in choosing what the story should be, and she was always equal to the occasion. If there had been no such happening in her own family, it had occurred in a neighbor's. It seemed to us as if those early days were filled with strange adventure, and romance, and we almost wished we might have lived then instead of now.

Grandpa's children were John, Mary, and Arthur, besides our own papa, who was a baby at that time.

One night as we gathered about the fireplace Grandma said, turning to Bennie, "Well, Bennie boy, it is your turn to choose a story. What shall it be to-night?"

"Something about guns and hunting, I guess," replied Bennie, gazing into the fire reflectively.

Dorothy and I looked at each other and exchanged smiles. We almost always could guess beforehand what Bennie would choose.

After a moment's thought Grandma began: "I shall tell you how Arthur finished earning enough money to buy some new traps one winter, when he was just your age, Bennie. Arthur was fond of roaming thru the woods as a boy and spent every spare moment trapping game. The small animals were so plentiful they would eat up our crops unless trapped. He dearly loved to shoot at a mark, too, but ammunition could not often be wasted for that. He became quite a proficient marksman, however, and often went out with John or his father and brot in some squirrels."

"Arthur never had quite enough traps to suit him and one day in the fall, on going to town with his father, he saw a lot of traps in the store which were offered for three dollars. There were eight good steel traps in the lot and, as they generally cost forty cents apiece, he thought it a rare bargain. But money was a very scarce article in those days. The merchant, seeing how much Arthur desired the traps, good-naturedly offered to put them away for him and allow Arthur to bring furs in payment for them."

"On Arthur's return from town he immediately overhauled his traps, carried them to the woods, baited and set them. In two months his father would go to town again for the winter's supplies and that would be his only chance to buy the traps."

"His luck in trapping was good, but it took a good many coon-skins and muskrat hides to amount to three dollars, for fur-bearing animals were more plentiful then and of course not so valuable."

"When the trip was but one week distant, careful estimating of the value of his furs showed it still lacked one dollar of being enough to buy the traps. Grandpa told Arthur that if they could finish the husking on Wednesday, the following day they would take the guns and go hunting. Then whatever they shot that was salable, Arthur should have toward buying his traps."

"John, Arthur and their father finished the husking of the corn by lantern light that night. It had been arranged with John that the next day he should do the work at the barn so the two could obtain an early start."

"In the morning, on arising, Grandpa found he had rheumatism so badly in his right arm that he could not use it. Of course we thought that settled the matter, as John could not go with Arthur on account of the work."

"I will go alone," stoutly asserted Arthur. "I am not afraid and can handle a gun all right. Why, I am fourteen years old!"

"Grandpa hated to disappoint the boy and, after cautioning him to use care in loading and handling the gun, told him he might go. I prepared his luncheon, and he set out before it was fairly light."

"It was such an event to be allowed to go to the woods alone with a gun that Arthur told us all about it on his return. The day was just beautiful for hunting. There was no snow on the ground for tracking, but otherwise it was ideal. The wind had swept the leaves into hollows and heaped them about log piles, making many clear paths where one could walk noiselessly. The red squirrels came out and watched Arthur with bold bright eyes as if they knew they were too small to waste ammunition on. The birds had left the woods, except the partridges and quail. As Arthur was walking quietly along he almost stepped on a mother partridge and three half-grown young ones, but in a flash they had all disappeared. A little farther on he heard squirrels chit-peared and no amount of poking about among the leaves uncovered them; the birds were so near the color of the leaves. Tiring and, on coming near, discovered a colony of grey squirrels frisking thru the branches of the trees. Arthur bagged five of them thinking they would make good eating."

"Nearing a beech tree, there was a whirr of wings and a flock of quail that had been feeding on the nuts rose in the air. The scattering bird shot from Arthur's gun brot down two of them."

"Still there was nothing really marketable. Arthur decided to go farther into the woods, to a less frequented part, and just after noon he reached a place where he expected to find some game. He was very tired and hungry by this time, so he sat down on a log to eat his luncheon. He had scarcely taken his first mouthful of food when he heard a sound. Could that be a turkey's call? He listened; faintly but clearly the call was repeated. Arthur jumped to his feet, stuffing the food in his pockets and ran in the direction of the sound. As he drew nearer he became more cautious and finally crept into an open space and looked around. There was nothing in sight."

"Tired and disheartened Arthur finally decided to sit down in a sheltered place and finish his luncheon. Maybe the turkey would call again."

Leaning the gun against a tree, Arthur sat down. It was warm there and after he had eaten it seemed good to the tired boy to stretch his limbs for a few minutes' rest. The long walk in the open air, combined with his early rising, made him very sleepy."

"The next thing he knew he was awakened by a queer flapping sound. The sun was low and Arthur hazily recalled what had brot him to that spot. He heard a scraping noise over his head and glancing thru the branches he saw a sight that sent the blood coursing thru his veins. Outlined against the sky, just to his right, was the largest wild turkey he had ever seen. It had come to the tree to roost for the night."

"Trembling with excitement, he carefully reached for his gun, which was loaded. Then he had to wait a moment for his hand to stop shaking. The thot of what it meant to him to shoot the turkey steadied his nerves, so, taking careful aim, he fired and the turkey dropped to the ground. Arthur picked the heavy bird up, well knowing he must arrive on more familiar ground before it grew any darker."

"I thot of the lad alone in the woods many times that day, but pioneer mothers had learned to be brave. We sat at the supper table that night, secretly anxious at the lateness of the hour and Arthur's tardy return, when suddenly his clear whistle sounded outside. Mary ran to the door and threw it wide open. The candle light fell upon the short stocky figure of Arthur, with gun over one shoulder, the magnificent bird over the other, its head just touching the ground. Such a tired and happy boy!"

"We dressed the turkey and hung it away. The next week his father was able to go to town and Arthur went with him, taking along the furs and the turkey, which weighed 27 pounds. The storekeeper paid him one dollar and twenty-five cents for it, a big price in those days."

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Put 2½ oz. of Pinex (fifty cents' worth), in a clean pint bottle, and fill up with Granulated Sugar Syrup, made as follows: Take a pint of Granulated Sugar, add ½ pint of warm water and stir for 2 minutes. Take a teaspoonful every one, two or three hours. The taste is very pleasant—children take it willingly. Splendid, too, for colds, chest pains, whooping cough, bronchitis, etc.

Granulated Sugar makes the best syrup. Pinex, as you probably know, is the most valuable concentrated compound of Norway White Pine Extract. None of the weaker pine preparations will take its place. If your druggist hasn't the real Pinex, he can easily get it for you.

Strained honey can be used instead of the syrup, and makes a very fine honey and pine tar cough syrup.



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Arthur bot his traps and had fifty cents left. What he did with that is another story.

"The boys made quite a sum of money with the traps that winter and they thot the three dollars a good investment."

THE WIDDER.

BY J. W. GRAND.

It was a cold day in the old Passadanky country, and a man out in the weather wanted to be well wrapped if he cared to be comfortable. Consequently, away back in the eighties, as I was driving past a bleak-looking clearing in the backwoods, I was amazed to see, sitting on a rail fence by the roadside, an eighth of a mile from the nearest house, a man in his shirtsleeves and wearing a straw hat. He looked disconsolate and lonesome but not cold. I stopped and asked him if he wanted to ride.

"Nope!" he replied in a hopeless sort of way. Then he squinted down the road and said:

"I'm a leetle short o' seein', stranger, an' I'd like to ast ye if ye seen anythin' of a tol'able tall woman comin' round the bend yonder, lookin' as if she mowt be a leetle sot in her ways, an' carrin' a blacksnake whip, or mebber a buckwhit flail."

"There's no such person in sight," said I.

"Didn't know but what the widder mowt be headed this way," continued the man. "The widder's been warmin' up her household agin this mornin'. I seen her ol' man comin' out o' the back door a spell ago, with her an' the mop both arter him. She pesters that husband o' her'n somewhat su-prisin', the widder does."

It struck me a little odd for a woman to be a widow and have a husband, too, and I told him so.

"Natur'ly, natur'ly!" he assented, still disconsolate, but beyond all question frost proof. "I'll open it up to ye. When she wuz fust married she was soon left a widder, fort'nitly fer the feller that left her. Twa'n long tho, fore she got up an' got married ag'in, an' the second individjil, only three weeks arterw'ds, said that he only wanted one thing to make him happier'n the happiest, an' that was to cross the rollin' Jordan. A pityin' Providence reached down an' lifted him over the river the very next week, an' the widder clutched onto the third lamb fer the saccurfice. Folks had started out by callin' her Mrs. Jehiel Washbaker, then the Widder Washbaker, then Mrs. Seth Conker, then Mrs. Jabez Sowpeck, an' by an' by the Widder Sowpeck; but when she led her fourth victim to the altar, folks see that she was prob'ly goin' ter keep the thing right up, an' so they didn't 'Mrs.' her no more, nor call her the Widder anybody, but jest sot her down as the Widder, whether she was actu'ly a widder or only gettin' ready to be one. The Widder is the Widder Dubbin, up-to-date, an' the way she does wrong that poor husband o' her'n is enough to make tears burst outen a bureau knob!"

"Henpecks him, does she?" said I, tucking the robes around me and pulling my cap further down over my ears. The disconsolate man on the fence shoved his straw hat to the back of his head, and, taking a long squint down the road, replied:

"Henpecks him! that hain't no word fer it. She pecks him with the rollin' pin, an' she pecks him with the broom handle, an' she pecks him with whatever lays handiest to her when she's warmin' up her household—from stove-wood to flat-irons. I've knowed her to clutch that ol' man o' her'n by the seuff o' the neck, an' swish him, stranger, till he'd kick cobwebs offen the beams in the kitchen. Wunst she got on the rampage so powerful that she cuffed her ol' man over and 'sot on him till she peeled a bushel o' taters, an' every time he'd move to git a little wind she'd scrunch down on him jest enough fer him ter see the golden shore, but not quite fer enough fer him to git his feet on it. Wunst she made it so warm an' cheerful fer him that he went out an' clum a chestnut tree, to ponder on the lonely lot o' man ez had no boozum companion to cheer him up, an' the Widder come out an' waited fer him all day at the bottom o' the tree with a buckwhit flail, an' then went up the tree an' got him."

"Why!" said I. "This lady must be a terror!"

"Ye didn't notice anyone comin' down yonder in the bend that looks like it mowt be her, do ye?" the man on the fence inquired.

"No," said I.

"Terrar, did ye say? Terrar? Why,

stranger, the Widder is what I'd call a livin' an' breathin' nine-gang circ'lar saw-mill, with ev'ry tooth sot, an' ev'ry saw makin' forty-eight thousan', nine hundred an' twenty-three revolutions to the second. That's what I'd call the Widder!" said the man on the fence. "I tell ye, it's an amazin' shame the way she pesters that ol' man o' her'n, fer he hain't a bad feiler. It's alluz been a wonder to me that some o' the neighbors don't step in sometime an' resky the Widder's ol' man when she's warmin' him up so all-fired pesky! But none o' the neighbors don't seem to have no pluck!"

I looked at the big, double-fisted, frost-proof backwoodsman a moment and then said:

"Why in Sam Hill don't you step in and help him? You're big enough and tough enough!"

"Sizzlin' grindstones, stranger!" he exclaimed, rising to his feet on the fence rail, and squinting anxiously down the road, "I'm the Widder's ol' man!"

SMILE PROVOKERS.

"She boasts that she is thoroly up-to-date."

"She isn't. She is eight years behind in the matter of birthdays."

"Sure an' what the devil is a chafin'-dish?" asked Pat. "Whist man," answered Nora. "It's a frying pan that's got into good society."

"They say," he said, more for the purpose of starting a conversation than anything else, "that American girls have large feet."

"Yes," she answered, "and it is becoming very well known that some of the American boys have very small hats."

Biggs—You say Brown is enjoying very poor health. Don't you know that is incorrect.

Boggs—Not in this case. Brown is never happy unless he has something to complain about.

Civil Service Examiner (very sternly, to Erastus Smith, colored, who aspires to the office of mail carrier)—"How far is it from the earth to the moon?"

Erastus (in terror)—"Golly, boss! ef yo's gwine to put me on dat route I don't want de job."—Judge.

The child was four years old, logical, persistent and curious. The mother endeavored, in all possible consciousness, never to depart from any statement once made the child as a fact. One afternoon this conversation occurred:
"Mother, where is your grandmother?"
"In heaven, dear."
"Oh!"
Silence and apparent absorption in toys for a full hour. Then:
"Mother, didn't I come from heaven?"
"Of course."
"Well, mother, it's awfully funny that I doesn't remember meeting your grandmother there!"—New York Times.

WHAT HE COULDN'T DO.

BY MAY ELIZABETH WHITE.

A stalwart youth of six feet two, who liked to tell what he could do. Said none e'er beat him in a game. None so unerring in his aim.

His rifle was the finest made. It put all others in the shade. He wondered "what ole Teddy'd thot, if he'd a seen the bear I caught."

His limping nag nine races led. His yellow dog was thoroughbred; He knew the senate he could face. And animate its lagging pace.

To prove his words he seldom tried. From telling test he shrewdly shied. Till harassed hearers grew so tired. To take him down they all conspired.

The club that met at the corner store. Six times a week or even more. Applauded all the braggart said. And daily puffed his swelling head.

They told him if he'd make a speech. The waiting masses it would reach; He heard their words, he saw no wink. He drank their praise without a blink.

He joined a club that met to speak In open meeting every week. But when assigned to take a part, He listened with uncertain heart.

His time had come one winter night. The hall was filled with life and light; When he was called to take the floor. The sweat was starting from each pore.

He ambled up with awkward air. His face grew redder than his hair. His cap he twisted in his hand. No words had he at his command.

He moved his right foot, then his left. But still of speech he was bereft. The silence seemed to set his jaws. He sought his seat amid applause.

"Were you afraid?" asked Archie Ray. As they pursued their homeward way; But sheepishly he shook his head; "I couldn't think o' nothin'," he said.

Gentlemen:—Nearly six years ago I bot a watch of you and would say it is a perfect time-keeper and never has stopped unless it run down, and that is very seldom. Anyone wishing a good watch would do well to invest with the Michigan Farmer. Also the sewing machine is first-class.—Mrs. G. F. Leland, Flushing, Mich.



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BEGINNING FEB. 28th.

Dairying, breed types, judging, feeding, breeding problems, official tests, tuberculin tests, equipment, etc.

BEGINNING MARCH 6th.

Swine, breed types, judging, breeding, feeding, forage crops, diseases, etc.

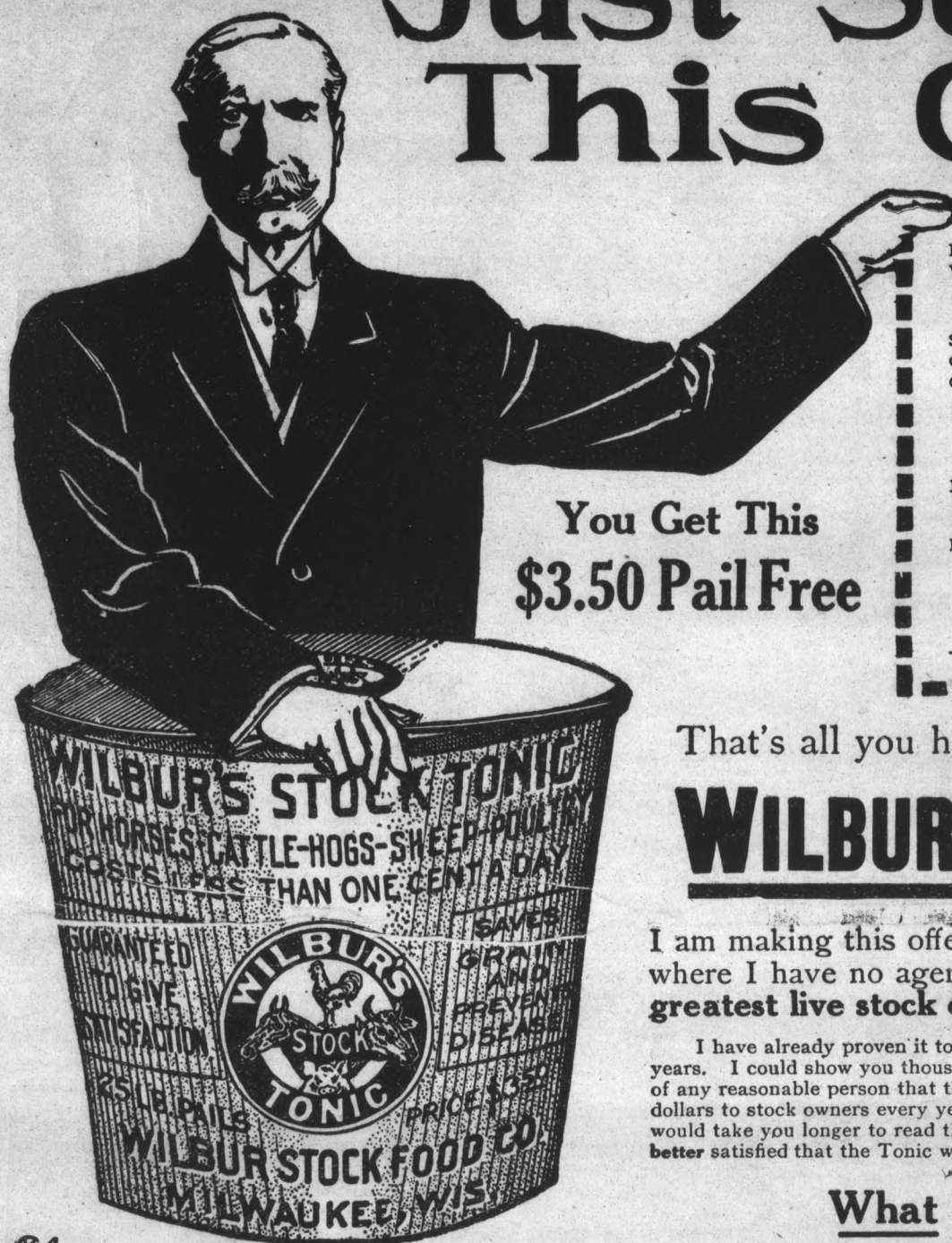
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You Get This
\$3.50 Pail Free

F. P. WILBUR, President,
WILBUR STOCK FOOD CO.,
664 Huron St. Milwaukee, Wis.

Gentlemen—Please send me the 25-lb. PAIL OF WILBUR'S STOCK TONIC ABSOLUTELY FREE, also the BEAUTIFUL 8-COLOR PICTURE and the particulars of your \$1000 CASH PRIZE CONTEST

Name _____

Post Office _____

Freight Station _____ State _____

Kindly fill in here the number of live stock you own:

_____ Hogs _____ Cattle _____ Horses _____

That's all you have to do to get a free 25-lb. pail of

WILBUR'S STOCK TONIC

I am making this offer to send Free a \$3.50 pail of my Tonic, where I have no agent, simply to prove to you that it is the greatest live stock conditioner known.

I have already proven it to more than 500,000 stockmen and farmers during the past 25 years. I could show you thousands of their letters which could leave no doubt in the mind of any reasonable person that the regular use of my Tonic has saved and is saving thousands of dollars to stock owners every year by preventing disease and increasing production. But it would take you longer to read the letters than to write me for a Free Pail. Besides you will be better satisfied that the Tonic will save money for you when you have tried it on your own stock.

What Wilbur's Stock Tonic Is

It is not a medicine compounded to cure any specific disease, but a Tonic that restores and maintains perfect conditions of health and thereby prevents all diseases of live stock.

It increases the power of digestion and assimilation, and, therefore, production. With the dairy cow, the milk-producing feed is ALL appropriated and converted into milk. With horses, it regulates the bowels, purifies the blood, maintains perfect condition, and fills the animals with vitality and activity. For brood mares in foal or suckling colts, it has no equal. With fattening animals, either cattle or hogs, it sharpens the appetite, increases digestive power, and enables the system to convert all the food into fat. Vitality, vigor, and therefore egg production, are increased by feeding a very little to fowls regularly.

Send for FREE Pail Now

I don't know how to make a more fair and liberal offer or one that will better prove the value of my Tonic. You get a full \$3.50 pail, 25 lbs., 1240 feeds, FREE. All it will cost you is the 2-cent stamp for mailing the coupon. Is it worth it to you? If so, mail the coupon now. I will attend to the matter promptly.

Think What Could be Done With that Extra \$500

It would build a comfortable addition to the house. It would furnish your home completely. It would build a granary or an extension to the barns. It would give a young person a business education or go a long way towards completing a college course.

It would pay for a trip to Europe or an extensive journey through America.

If it were required for no other use, it would start or increase a bank account very nicely.

You will surely decide that it is worth trying for when you consider that the trial costs nothing. Send coupon at once—today.

Extra Special Premium

Remember—You get this beautiful work of art, done in 8 colors, in addition to your free pail, if you send in the coupon at once—whether you enter the \$1000 Prize Contest or not.



PAST FAMOUS SIX-HORSE TEAM OF WORLD'S CHAMPION PERCHERONS

Awarded 1st Prizes, World's Fair, St. Louis, 1904. This Magnificent 8-Color Picture, Size 15 x 31. Sent Free, if You Mail the Coupon Today.

©4

I Will Also Give Away \$1000.00 In Gold In Cash Prizes

I have deposited with the First National Bank of Milwaukee, One Thousand Dollars (\$1000.00) in Gold, to be given away in prizes in the most original prize contest ever conducted.

This \$1000.00 prize contest is open to every person who writes me the information asked for in the coupon, or who fills out and sends me the coupon. The details of the contest will be sent at once.

Remember, it requires no special knowledge to compete for this great prize. Anyone in the family can compete—Father, Mother, Boy or Girl—or all of them together.

It will require only a few minutes work in the evening or at any spare time. The cash prizes are:

1 FIRST PRIZE	•	\$500.00 Cash
1 Second Prize	•	100.00 Cash
1 Third Prize	•	50.00 Cash
4 Prizes, \$25. each	•	100.00 Cash
10 Prizes, 10. each	•	100.00 Cash
10 Prizes, 5. each	•	50.00 Cash
100 Prizes, 1. each	•	100.00 Cash
127 Prizes		\$1000.00 Cash

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