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WHY I GROW SUGAR BEETS.

THE people of this country send to foreign countries every year nearly \$100,000,000 for sugar. Every dollar's worth of this sugar could be produced in this country. Is this good business? It seems to me, as long as we have the climate and the soil and every facility for growing sugar beets equal to the facilities of other countries, that it is up to the farmers of this country to produce what sugar we need, and keep this \$100,000,000 in our own pockets.

While there is a little more money for the American farmer at the present day in growing the staple agricultural products, like corn, wheat, oats and barley, than a few years ago, there is none too much profit in it now, taking everything into consideration. The surplus of some of these products has to be sent abroad for a market, and therefore the price is fixed by the price in foreign countries. Now why would it not be better for the farmers of this country to grow enough sugar beets to supply the home demand, and grow less wheat and other products that have to be exported, and thereby in a measure control and take care of the market for these products. As I look at it it is a business proposition. The growing of sugar beets in this country is a means of controlling the market, and I believe in controlled markets. There isn't any business sense in the farmers of this country producing so much of any one particular product that it overstocks the market. That isn't good business. It is simply a business proposition to take care of your market, and don't put more stuff upon the market at any one time than the market will take care of at a profit. Now when we grow sugar beets, we are doing this. Every acre that we plant to sugar beets takes that acre out of active competition with wheat or corn or oats or potatoes. Supposing the 250,000 acres that were devoted to the culture of sugar beets in Michigan last year had been planted to potatoes, or supposing it had been divided up among other crops. What would have been the effect upon the market? The acreage of sugar beets is largely withdrawn from the potato acreage, and in my judgment that has had much to do

with better prices for potatoes for the last few years. If we would stop growing sugar beets today and plant the acreage to potatoes there would be so many produced that they wouldn't be worth hauling to market. Now by planting this acreage to sugar beets we control the potato market. If the growing of sugar beets is profitable, if we can figure out a profit in it, then I consider it every farmer's duty, in the sugar beet zone in America, who is in reach of a sugar factory, to grow a few acres of sugar beets every year.

I like the sugar beet business because the speculation is entirely eliminated. If a man puts in a large acreage of potatoes and ties up all of his capital, even if he raises a good crop, he don't know what he is going to get for them. There is nothing certain about the market, and this potato market has helped put gray hairs into many a man's head. It is speculation. With the sugar beet crop the speculation is entirely eliminated. You have a contract with the company a year beforehand so that you know just exactly what you are going to get per ton for your sugar beets. All the farmer has to do is produce the tonnage. It relieves a man of a whole lot of worry. Sugar beets are nearly the only crop, with the exceptions in some instances where canning factories and other special industries, like the cucumber business, contract with the farmer and agree to pay a specified price, where the farmer is not solely at the mercy of the manipulation of the market. I have understood that there is a movement, on foot in Chicago among the big produce dealers to organize and build warehouses in northern Wisconsin and the upper peninsula of Michigan and guarantee the farmers a certain price for potatoes. Now this is a movement in the right direction. There is many a poor fellow has put his all into a potato crop and lost. One could not do this in the sugar beet business. If he grows a crop he will get a profit because he has got a price established, and a paying price.

Another reason why I grow sugar beets is because the by-products of the sugar beet industry are valuable food for dairy cows, and primarily I am a dairyman.

The leading purpose in my farming is dairying. I raise other crops to be sure—they fit in well between milkings—but a crop like sugar beets where the by-products, the pulp and the tops, are a valuable dairy food is a more important crop to me than a crop of potatoes where there is no chance to get anything out of the waste. I consider that the beet tops are well worth \$10 per acre, in the field I mean, not after they are put into the silo, but in the field; that a dairyman could afford to pay \$10 an acre for the tops on a good average crop of sugar beets to feed to his cows. Now this is quite a lift towards paying for the cost of growing a crop of sugar beets, and it is all extra. It isn't figured in when you figure the cost of raising beets.

Another reason why I grow sugar beets is because it makes more business on the farm. I can't see how you can make anything out of farming unless you run the farm at somewhere near its limit. If you are trying to do just as little business as possible on the farm, where is the chance to squeeze out any profit? Profit only comes by running a business up to its capacity, and people who are trying to farm 80 or 120 acres of land without having any help cannot make any profit out of that land unless they are simply mining the plant food out of the soil and selling it. Now the growing of sugar beets on my farm adds more business to the farm. It gives me a chance to employ more help. It gives me more work for my horses, which are one of the necessary investments, and also the regular hired men, and the marketing of the crop comes after all the other work of the farm is done. With the modern way of caring for the corn crop there would be nothing for the men and the teams to do in the fall if it wasn't for marketing the sugar beets, and by having this crop I prolong the season, as it were, and get more labor for my farm teams.

Therefore, it can be shown that sugar beet growing is as profitable as other crops, then it follows from what has been said that it is a good business for the farmer in the state of Michigan. It helps him in more ways than one, and, last but not least, it brings him in cash at just the season of the year when he is

compelled to have it. The sugar beet crop is a pretty good thing to rely on to pay taxes with because your cash is ready when you get your beets to the factory.

COLON C. LILLIE.

SUGAR BEETS AS A CASH CROP.

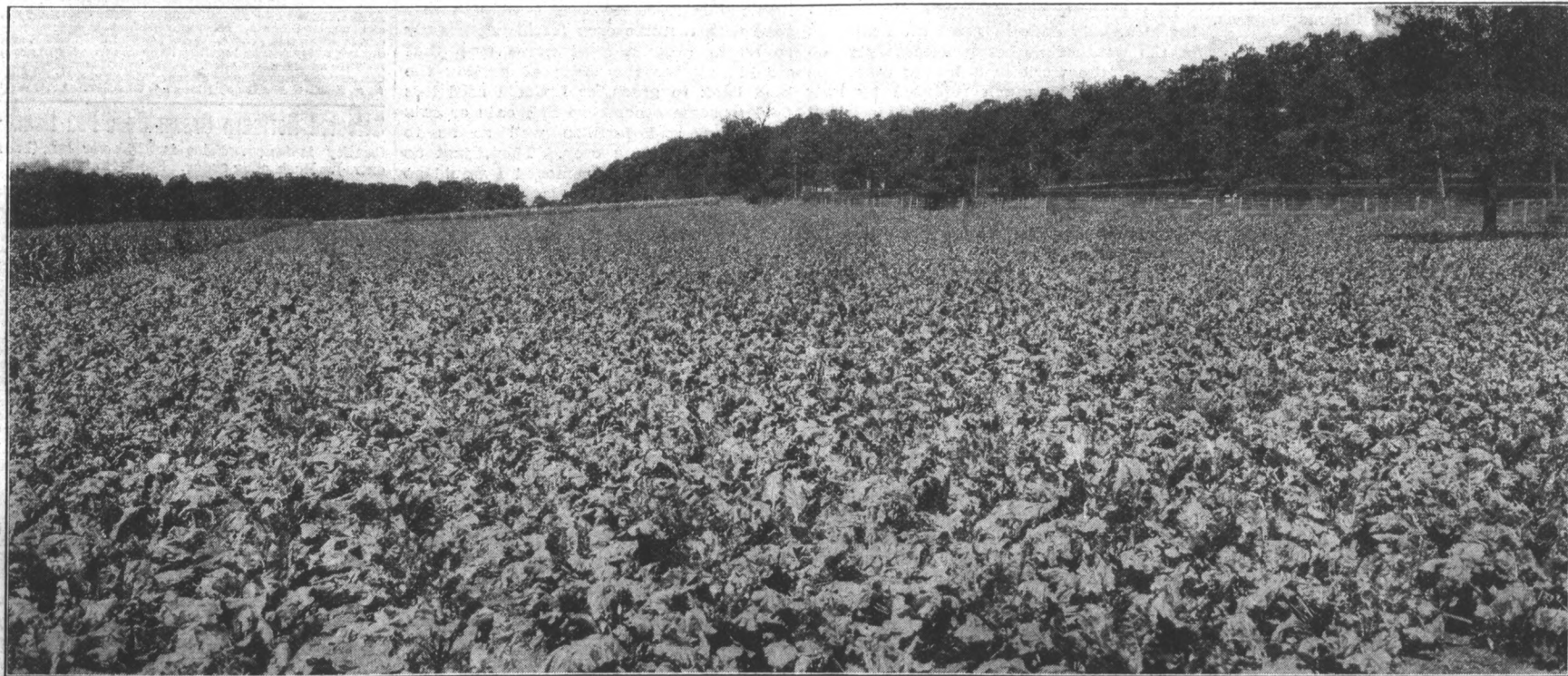
My experience with sugar beets has been varied. But from uncertain results at first, which I find came from ignorance and prejudice, I have come to put them first on my farm as a money crop. In fact, I believe, if the fertility of the land is to be taken into consideration, they are the only money crop I can afford to raise.

In common with the majority of this community, I had to learn that the conservation of the fertility of our soil depended upon a proper rotation of crops. In this rotation in Michigan, sugar beets have their place. They are clearing more cash to the acre than any other farm crop we can raise here. Besides the money returns, the tops furnish just the green feed needed by cattle and other stock early in the winter, affording results similar to those obtained from ensilage. Dairy products are materially increased, and all stock put into good condition to endure our severe Michigan winter weather.

In addition to the above, we have some indirect results not so often recognized. The handwork done on the crop eradicates all weeds and weed seeds. The deep plowing of the sugar beet lifter in the fall acts, especially on clay ground, as a sub-soiler, renewing the fertility of the field. Without further plowing, we then have ready a surface prepared for oats or barley, with which we may seed down to clover.

In this community the sugar beet has been a valuable educator. Every farmer who raises sugar beets, learns from them the value of thorough cultivation, and applying that knowledge to his other crops the effect on the farm as a whole is soon noticeable.

Here, the sugar beet is the mortgage lifter. That curse of the Michigan farm seems at last to be about to disappear. Already farm buildings are improving. One woman and her children near here



A Good Stand of Sugar Beets, Well Cared for Throughout the Season, Insures a Profitable Source of Income on Many Michigan Farms.

put in sugar beets and bought a piano. A neighbor of mine uses them to keep his sons on the farm, allowing each one a certain number of acres for beets for his own. School boys near here put in a patch of sugar beets as an experiment in agriculture, and outdoor exercise between baseball and football seasons, and were surprised at finding themselves schoolboy capitalists in the fall.

I myself am using sugar beets to buy land. Last spring, early, I bought eighty acres waste swamp land, which had lain useless for centuries. If congress will not interfere with our beet business here, I can clear that land and pay for it with sugar beets. Ten months after buying it we delivered the beets produced on the first 20 acres to go under the plow. The value of the crop was about \$1,500. If anyone can give such results from any other farm crop, I should be pleased to hear from him.

Saginaw Co.

"MACK."

FERTILIZER AND CROP ECONOMICS.

At this season of the year many farmers are debating the question of fertilizers. There is nothing mysterious about fertilizer; it is simply plant food. We are enabled to look at the cow from a commercial standpoint, viz., pounds of milk and percentage of butter-fat. A bag of fertilizer may be high or low in plant food, or it may contain something that we do not need, or need now. There are crops, like sugar beets, in the growing of which, considering the guaranteed price and the high cost of labor involved, fertilizer is simply an investment and in addition an insurance policy. The nitrogen in the fertilizer puts the beets up out of the ground a week or ten days in advance of the unfertilized beets, from the standpoint of blocking and thinning. Nitrogen is the quick acting constituent of smokeless powder and dynamite and, in a figurative and partially chemical sense, this is true of a nitrogenous fertilizer. "Scotty," the occasionally millionaire from Death Valley, in California, when he chartered a special train to Chicago, and made unprecedented fast time, said he was "buying speed." So in the case of fertilizer containing nitrogen and phosphoric acid on beets, the former gives assistance in the early portion of the plants' growth and the latter assists in early maturity or ripening, and, like "Scotty," the beet grower is "buying speed."

Under the sliding scale of sugar percentages in selling the beets to the manufacturer of sugar, the grower desires a high sugar content. The farmer is at this stage making sugar and selling sugar, really a producer or manufacturer of raw sugar and he wants the material to fabricate, as the Germans say, sugar in the beets. Potash is the element that makes sugar in vegetables or starch in grain. The sugar maple does not grow in swamps, for it would find too little potash to fabricate or make a sweet sap. The "soft" maple makes an effort in getting nearer the swamp than the hard maple, and has a lower sugar content. The "ashman" wants hardwood ashes, because, like the sugar beet, he wants potash. While you may fool the ashman you can't deceive the beet or the maple trees. Not all soils may need potash, but plants are often times modest, and particularly beets. They partake if food is plenty and, if not over plentiful, are satisfied with less and give less. The fertilizer manufacturer is obliged to sell his materials for the farmer to manufacture sugar in percentages, and the state enforces and umpires the transaction. Sometime, perhaps the state will umpire the deal and see that it is square when the farmer sells raw sugar to the manufacturer.

The economy to the farmer is in buying high-grade fertilizer. Do not ask the name of the brand or allow the price per sack to influence, except in its relation to "speed" and "sugar," i. e., nitrogen, phosphorus and potash. High-grade fertilizer is always cheaper in plant food, and, if your soil and inclinations lead you to cheapen the application, use homeopathic doses of high-grade goods.

The sugar content of beets has been nearly doubled within the last century. This means the plant has increased its capacity to use the raw materials essential to make sugar, enlarged its capacity just as a sugar factory increases its capacity—and the farmer cannot afford to operate a high-class plant below its normal capacity any more than the final factory to make sugar. Soils deficient in plant food, fertilizers, carrying weight rather than plant food, are some of the

elements in control of the farmer. Rain-fall he does not control in the humid sections and this is one of the advantages that beet growers have under irrigation in dry countries.

These same observations are true of potato fertilizers, except the element of chance in crop and prices. It is not so entirely apparent in corn, which is a gross feeder. With beans, the crop is planted at the period of maximum nitrification and if favorable soil and weather unite with a large seed for plant food there may be little necessity for buying "speed" or early plant growth, and there may be a great necessity. Here it is for the individual to determine.

With sugar beets there is every reason for using fertilizer. My own idea is about a 3:8:6, 200 pounds to acre as a minimum. There probably never will be a formula worked out with mathematical accuracy and there will always be a limit beyond that which is profitable to apply, but the variability of a crop of beets from eight to 20 tons means greater possibilities of fertilizing. A high-grade nitrogen for early growth needs efficiency in the other lines to follow the pace set by the plant in starting. A silk hat and a flannel shirt would be as incongruous as high nitrogen and low phosphorus and potash.

Shiawassee Co. JAS. N. McBRIDE.

SEEDING CLOVER WITH HUNGARIAN GRASS.

I have an acre of ground which has been planted to corn for three or four seasons and would like to get it seeded to clover to plow under later. As I need forage for horse feed, I am thinking of sowing Hungarian grass. Please tell me if I would get a catch of clover in the Hungarian grass, or is there any other forage crop which would serve the purpose better?

Wayne Co.

SUBSCRIBER.

I do not think that Hungarian grass is a good plant to use as a nurse crop for clover. To get a good crop of hay out of Hungarian grass you ought to sow about one-half bushel to the acre. This makes it very thick and there would be no chance for the clover to make any growth. Besides, the Hungarian grass is a hot weather plant. It doesn't want to be sown too early in the spring. The clover ought to be sown earlier, or else later. The Hungarian grass grows right through the hot dry weather. The clover plant does better to get a start in a more moist and cooler period of the year.

If I wanted to raise a crop of forage on this field and then seed it to clover I would fit it early in the spring and sow it to peas and oats and cut these for hay and then fit the ground as soon as possible, work it up fine, and just as soon as there comes a shower in August I would seed to clover without a nurse crop, using a good liberal application of commercial fertilizer to give the clover a good start. This ought to be done also on the peas and oats in the spring. In this way I believe you could get a good crop of forage for your horses and also get a good stand of clover.

COLON C. LILLIE.

PREPARING FOR THE OAT CROP.

In the northern states where oat seeding is usually done in April the fickleness of the weather makes it necessary to do much of the work in a hurry; otherwise sowing may be much retarded by long continued wet weather. Hence, it is not only necessary to be in readiness for the work when the season arrives, but to do it by the shortest method consistent with good farming.

I once knew a farmer who sowed his crop broadcast over corn stubble early in the spring during wet weather and never touched the ground with a harrow or any sort of implement; and yet the oats sprouted and grew and he often raised a good crop. It was certainly a lax method from the viewpoint of most casual observers. It was a short cut method and most farmers would have called it a lazy one. However it may be, it is a fact that the oat crop is less partial to fine culture than many crops are; it can stand a great deal of cold wet weather, but only a limited amount of hot, sultry weather in the early stages of its growth; and this man's method of sowing the crop might often be better than a belated crop with well prepared ground when weather is very warm.

Several years ago I quit plowing for oats, substituting the disk harrow and with a slanting-tooth drag and sometimes a clod crusher, are the implements I use. With two teams one can easily sow three or four acres per day whenever the ground is in passable condition. If the ground is

to be plowed it takes at least two days to do the same amount of work. The disk harrow mellowes the soil abundantly for the oat crop on corn stubble, besides it leaves much trash on the surface which mulches the young plants during the hot days when rain is needed.

The crops I have raised by the disking method have in most seasons equaled the ones I raised by plowing and at so much less cost that there can be no question as to its being the most profitable method. The crop can be sown so much earlier than by plowing; it is more simple and convenient; let one team go ahead with the disk harrow, lapping one-third, and when an acre or so is thus covered then a man may start sowing the oats broadcast, using a few more to the acre than when drilled, and if another team is to be had the slanting-tooth harrow may follow to still further pulverize and level the ground. The final operation will be the rolling or going over with the clod crusher—a practice which I often omit owing to wet soil.

Taken all in all, there is no better method of oat sowing. True it is that weeds sometimes get the upper hand in certain spots of the field where the disking method is practiced; but this can largely be overcome by giving these foul spots a little more preparation. Moreover, the fields that have been well tended the previous year are not likely to be thus infested when the oat crop is sown. The spring-tooth harrow is also a good tool to use in fitting ground liable to be infested with weeds or grass roots.

Ohio. H. E. WHITE.

FERTILIZER FOR SPRING SEEDING WITHOUT A NURSE CROP.

I wish to seed to clover and timothy this spring, and would like your advice as to the kind of fertilizer to use. Soil is clay loam with some dark sand, cropped last year with potatoes and beans. Will seed without a nurse crop. The land was kept pretty clear of weeds.

Kent Co.

W. O. S.

For seeding timothy and clover in the spring without a nurse crop I would use a commercial fertilizer containing a fair per cent of potash, a good per cent of phosphoric acid, and a little nitrogen, to give the grass seed a good start. I should say a fertilizer analyzing two per cent of ammonia, eight per cent of phosphoric acid, and four per cent of potash would be a splendid formula for this. If you would seed to timothy alone then I would recommend a fertilizer carrying a heavier per cent of nitrogen, but as long as clover is the main thing we don't want to feed this plant too much nitrogen because we want to encourage it to get its nitrogen from the atmosphere.

From my experience I think W. O. S. is making a mistake in seeding this clover and grass seed early in the spring without a nurse crop. Unless the land is practically free of weed seed there will undoubtedly be some trouble from this source, and I should expect that if I seeded grass seed alone in the spring that I would have to mow it two or three times to kill the weeds or else they would smother the clover worse than a nurse crop. If you have to clip it you won't stand any show of getting any crop the first summer. Therefore, I would either seed with a nurse crop fertilizing heavily so as to grow a good nurse crop that would pay for the labor of getting the land back to grass, or I would seed this field to some other crop like oats or peas and peas, and fertilize well so as to get a good paying crop. Then, just as soon as this crop is removed I would go to work and fit up the land thoroughly, lime it and fertilize it, and seed to grass and clover in August. In this way you avoid the expensive process of going without the use of the field for one season. Perhaps some people wouldn't count upon this, but my way of thinking is, this is a very extravagant thing to do. If we have to be without the use of a field for one year it is a heavy setback. We have to have mighty good crops the other years if you make the field pay, and I would expect to get a good crop of oats or peas if I fertilized them well and then expect to get just as good a stand of grass that would make practically as good a crop the next year as I would if I seeded in the spring alone without a nurse crop. It may possibly be that with a nurse crop you wouldn't get a good stand of clover in the spring but I am practically sure that you could raise a crop of oats and peas and then, by fitting the ground just as soon as the crop is harvested and sowing your seed in August, you would get a good stand.

COLON C. LILLIE.

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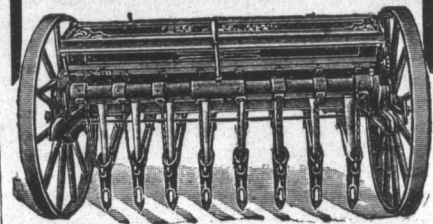
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RELATION OF SOIL FERTILITY AND
CONTINUED PROSPERITY.

The above caption was the title of the second address of Dr. C. G. Hopkins, of the University of Illinois, before the Round-Up Institute at the Michigan Agricultural College, the first being reviewed in the last issue of The Farmer.

The first thought was introduced by reference to Holy Writ where the Maker commanded the patriarchs to go forth and subdue the earth. Dr. Hopkins held that we had failed in subduing the earth. To-day congressmen cannot arrive at the national capitol from their homes without passing abandoned farms. It is estimated in round numbers that in these United States there are now fully 4,000,000 acres of land that has been abandoned, to go back to nature that she might rebuild it. To subdue the land means to make mellow and productive. We have done the very opposite. Of the whole country the North Central states are the only ones that have shown an increase in the production of corn. The six states of New England, New York, Pennsylvania and New Jersey, have decreased their yield of corn.

The high cost of living has become a matter of general comment and interest, yet Dr. Hopkins declared that the produce of the farm was not selling as high as it should. And, too, he stated that the Americans were not paying dearly for food in terms of labor as is the case in many countries. In India, for instance, a laborer gets for his services 50 cents per month and wheat there has been known to reach the price of \$3.50 per bushel. This would be called high cost of living. Russia, on an average, has a famine once in five years. China has a famine only when there occurs some great calamity. China has better control of the race and seems to know better than we the limitations of civilization. The lands of the Aryan race have always gone back: The race depleted Babylon, Palestine, Greece, Carthage, Rome, and is now struggling to rob the land of western Europe and the American continents. Our eastern states are repeating the history of the countries lying in the wake of our civilization. Our yield of wheat is 14 bushels when it should be 40 bushels. During the last decade our increase in population was 21 per cent and there is practically only nine per cent more land in this country that can be subdued. Continued prosperity depends upon our ability to get wealth from the land. If population gets ahead of our power of producing the necessities of life then we shall ultimately reach the starvation limit. And poverty restricts intelligence, impairs our school systems and thwarts our industries by reducing the efficiency of both labor and management. The speaker took time to impress the need of greater restrictions upon the race, and of extending educational advantages to all.

Statistics show that for two successive periods—one of 24 years and the second for 32 years—the average yield of wheat for the first was 12.1 bushels and for the second was 13.6; whereas for oats the average for the first period was 27.6 bushels and for the second 27.8 bushels; corn lost one-half bushel during the second period; potatoes decreased also. Corn in Michigan yielded an average of 32 bushels for a period of 20 years and an average of 29.5 bushels for the following 20 years. In the past five years the yield in Michigan averaged 33.3 bushels, but the doctor was not given to depend upon the average for so short a time. Her wheat crop averaged 14.8 bushels for the first period and 14.3 for the second 20-year period, with an average of 16.5 for the past five years. From western Europe the farmers are coming to this country for our phosphate and their yields are on the increase. In France for the term of ten years from 1815 to 1824 the average yield of wheat was 11 bushels, while for the ten years from 1898 to 1907 the average was 20.8 bushels. In Germany the average from 1880 to 1889 was 22.2 bushels, while from 1900 to 1909 it was 29 bushels.

Thus it appears from the data and the observations sighted by the doctor that the question of soil fertility is closely linked with the question of our continued prosperity. If we maintain soil fertility we are in a position to maintain our prosperity; but if we deplete our land our civilization must fail.

The remainder of the address consisted in the showing of lantern slides which illustrated many of the points brought out in the different addresses. It is impossible to give any adequate or satisfactory description of these slides, they can be appreciated only by being seen.

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From a Photograph showing ears taken from a crop of corn estimated to yield 80 bush. per acre

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as it is to grow ordinary crops of small ears with inferior fertilizers. It costs no more for seed, planting or cultivation. Farmers should take no chances as to the fertilizers they apply. The aim should be to get out of the soil all that it can yield. Every bushel raised in excess of the usual production means that much gained, and gives the farmer a great advantage.

**U. S. Department
of Agriculture**

Farmers' Bulletin No. 308, among other things, says that *the best farmers have a better understanding of the value and use of commercial fertilizers in growing large crops of superior quality. Also that the importance of taking into consideration all the factors which influence the use of fertilizers can hardly be over-estimated. A plant must have all the essential fertilizer constituents present in available form or its growth will be hindered in proportion to the deficiency of the lacking constituent.*

The above statement shows the importance of using commercial fertilizers, which are one of the chief needs of modern farming.

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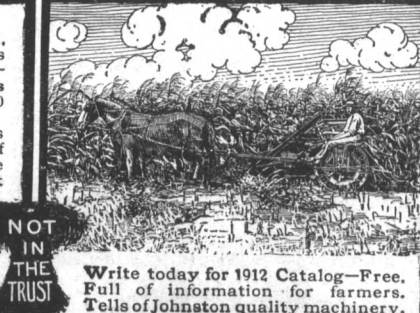
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Don't Let Last Year's Drouth Ruin This Year's Crops

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finely ground, 95% through 100 mesh
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PUBLIC SALE

OF

CLYDESDALE HORSES

April 4, 1912

At Sarnia, Ontario.

SALE LIST:

PRIDE OF WARWICK No. 12119

Clydesdale Stallion foaled May 28, 1910. Weight 1500 at 22 months, excellent quality and great size. Also

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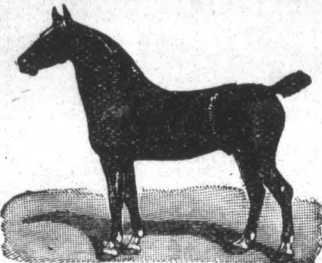
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A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

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when you use Ventiplex Pads in your horse collars, because your horses are always free from sore necks and shoulders. Ventiplex Pads are made of porous, ventilated fabric, which allows a free circulation of air under the collar and keeps the neck cool and dry. Your team will not hesitate to throw their weight in their collars, because their shoulders are sound, and will do more work.

Better than other kinds at the same price. Do not accept a substitute—ask for Ventiplex and insist on getting it. Patented Sept. 20, 1910. Sold by big and little dealers. Write for our instructive folder.

We also make the famous "Stay-On" Blanket. **Burlington Blanket Co. DEPT. 38 BURLINGTON, WIS.**

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GUARANTEED PER AND INDIGESTION CURE. Cures Heaves by correcting Indigestion. Book explains, sent free. Cures Coughs, Colds, Distempers, Prevents Colic, Staggers, etc. Blood Purifier. Expels Worms. A Grand Conditioner. A Veterinary remedy, 20 years' sale. 50c and \$1.00 per can. Use large size for Heaves. At dealers or direct prepaid. **THE NEWTON REMEDY COMPANY, Toledo, Ohio.**

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The value of ensilage for dairy or cattle feeding is known to all. To get results care must be taken in selecting a silo. The ROSS SILO is absolutely guaranteed to produce the right kind of ensilage. Why? Because it is THOROUGHLY MANUFACTURED and has features that are important and found on the Ross Silo only. Profit by our experience and build a ROSS SILO. Catalog explains all. Agents Wanted **The E. W. Ross Co. (Est. 1850) Box 14 SPRINGFIELD, OHIO**

You can buy an INDIANA SILO on our plan and never know you have spent a cent!

The best proposition ever offered. Write us a postal for our special plan and our free book entitled "Silo Profits." The book tells WHY you should have a silo and our plan tells HOW you can get one. **INDIANA SILO COMPANY.** The largest makers of silos in the world. Address nearest factory: 382 Union Bldg., Anderson, Ind. "Indiana Bldg., Des Moines, Ia." Silo Bldg., Kansas City, Mo.

LIVE STOCK

SHEEP ON THE FARM.

A fact that has claimed our attention in no small degree for the last year is the manner in which the farmers in many sections are selling and getting rid of their flocks of sheep. It seems many times as if sheep owners were a whole lot like their sheep, they see one go and all the rest want to follow. It is only two or three years since that every farmer was trying to buy sheep and the price did not seem to make much difference, but now it seems that everyone wants to sell, no matter what the price. At the spring auctions it has been a noticeable fact that the sheep, especially ewes in full fleece and ready to lamb, have brought less in proportion to what they will bring in during the next six months, than anything offered. It is an indication that the price pendulum is swinging too far to the wrong side and that it will soon be in the opposite direction. If history repeats itself as it has in the past it will soon be at the other extreme, and some of these very men who are now so anxious to get rid of the ewes will be just as eager to buy them when the price gets high.

Such methods do not produce profit. With sheep, as with anything else, a man must stay with them all the time in order to secure the greatest profits from them. They have their ups and downs, but so does everything else of which we have any knowledge, and yet year in and year out we know of no stock or crop that a man raises on a farm that brings in more profit than does a flock of good ewes. The wonder is that more farmers do not keep them. And yet, perhaps it is not to be so much wondered at when we hear every person who does not keep sheep complaining about the high price of wool, every politician talking about changing the tariff on wool, every institute speaker talking about the great profits from the dairy or the orchard, and many agricultural papers filled with matter of like purport, but not one word about the value or profit of sheep. Perhaps it is because the sheepman is too modest; we are not afflicted that way, and we just want to call your attention to some things about sheep which, of course, you know but must have forgotten, if you are farming and have not a flock of sheep.

Soil Fertility May be Improved with Sheep.

We hear much of soil fertility and how to maintain it, but we have seen nor heard of nothing that is superior to a flock of sheep to keep the soil fertile and make the farm produce good crops. But for the sheep that were brought into Michigan, fed on many farms, and their waste left there in the form of manure to be given back to the soil, those very farms would now be so depleted by crop growing that they would be classed with the abandoned farms of the far eastern states. The value of the sheep and lamb feeding industry in increasing the productivity of Michigan farms cannot be computed, for it has enabled her lands to produce crops even greater than in the pioneer days of the virgin soil.

No better fertilizer than sheep manure is known. At the big sheep feeding stations around Chicago where sheep and lambs are unloaded to rest and sometimes feed for a time, the manure has become a marketable product of these places. It is bought, pressed into small cakes by machinery, and in this form is sold to the farmers in the adjacent country, who plant one of these cakes by the side of each hill of corn, by means of an attachment on the planter. At one cent a pound and even more, it has proved to be the cheapest fertilizer to be had, and its benefits can easily be seen in the crop. Travel through this state and where you see a farm with a good flock of sheep upon it you will see rich fields, abundant crops, and a prosperous farmer. Another valuable feature of sheep manure, it builds up any soil. Tests do not have to be made to determine if it is rightly combined to give the best results. It builds up the poorest and helps the best soils. It does its work quickly, efficiently, and economically. And any farmer can manufacture it on his own farm.

Sheep Will Help to Solve the Farm Labor Problem.

Another important factor on the present Michigan farm is the labor problem, and here again the sheep comes to the aid of the farmer. No class of stock requires less labor in the course of a year. To be sure, there is a little time in the

spring when lambs are coming and shearing must be done, that they require close attention, but that is not more than a month or six weeks at most, while after the flock is well on grass the labor required in caring and feeding it is practically nothing. Thus, when you are busy with your other farm work the sheep require but little labor. In the winter time they likewise require the minimum of labor. Sheds need cleaning not more than once a month, and many not that often, while no feed need be cut nor ground for them. Somewhat different from the man who has cows to clean stables for and to milk twice a day, regardless of anything else that may happen. And when we are talking about labor it made us think about sheep when Mr. Washburne was telling how he walked up and down those big rows of corn bundles shocking 14 acres in a day of 16 to 18 hours, for one of the cleanest and most economical jobs of corn harvesting that we ever did was with a flock of sheep which we turned into the corn when it was ripe, let them cut the corn, shock it, husk, shell, and grind, draw and feed the stalks, pitch, draw, and spread the manure, all in practically one operation. And we probably spent ten minutes each day looking at them, seeing that they did the job right. **The Flock Furnishes the Best of Markets for Grain and Forage.**

The flock consumes to the best advantage and thus furnishes the best market for the largest amount of roughage and coarse fodder in proportion to the amount of grain required. How can you convert clover hay, cornstalks, and straw into money more easily or more profitably than by turning them into wool and mutton, and thus sell them as your manufactured product, while at the same time you are returning the manure to your farm to enable you to grow better crops? In summer it is the sheep that you turn into the stubble field to trim down the weeds and pick up the otherwise waste grain, or into the woodlot or along the fence row to clean up the young brush that may be starting. Thus they save you labor and at the same time turn these wastes into useful products.

It takes but little capital to start a flock of sheep, and the returns come quickly. Often have we seen men obtain more than the original cost of the ewes from the wool and the lambs within six to eight months from the time they bought them, and still have the ewes left. You have two crops, wool in the spring and lambs in the fall. Nor is expensive equipment necessary in order to keep them. They are quiet and peaceful, requiring no horse-high, bull-strong fences to keep them where you want them, while they wear enough coat so that they require only such shelter as will protect them from the wind and the storm.

These are but some of the important factors which make sheep a necessary part of the curriculum of every good Michigan farm that is located under average conditions of soils and markets. Special facilities for marketing other products may make them more profitable to some few farmers, but for the farmer who raises stock and crops of grain, sheep have just as important a part as horses, cattle, or hogs. Michigan soils are generally well adapted to sheep, as is her climate. Of the agricultural states she has stood second only to Ohio in the number and value of her flocks and their products, and until American agricultural conditions change most radically it would seem wise and profitable for her farmers to maintain and increase their flocks. For man must have meat for food and wool for clothing, and the sheep alone furnishes both.

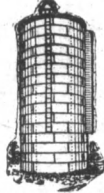
Washtenaw Co. Roscoe Wood.

AT WHAT AGE SHALL WE BREED OUR FILLIES?

Is this question given due consideration by the farmer and breeders? I think not. Some seem to think it best to breed them at two or three years of age, because, by so doing, they are gaining a colt. But do these extra colts compensate for the loss in the serviceability, size, and general condition of the mare? Most farm colts are expected to do a share of the work when they are three years old. They are not full grown at this age and as the best horses are the ones that are kept growing from birth to maturity, it is readily seen that if they are expected to share in the work that they cannot stand the additional strain of raising a colt without checking their own growth and weakening their constitution, unless they are given such care and feed as few farmers give or possess. The dam being nothing but a colt herself cannot raise as strong

SILOS

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All Metal Silos

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Direct from factory. A permanent structure adds value to your farm—not a liability, but an asset. A clean, safe container of silage. All sizes. Guaranteed for durability. You know the troubles with the other kinds, FREE CATALOG. Address nearest factory. H. W. HARRY MFG. CO., Dept. F, KANSAS CITY, MO., AND MASSILLON, OHIO



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If you are honest and ambitious write me today. No matter where you live or what your occupation, I will teach you the Real Estate business by mail; appoint you Special Representative of my Company in your town; start you in a profitable business of your own, and help you make big money at once.

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Don't Pay for This Sheep Shearing Machine Until You See and Examine it.

Most dealers have it. If yours hasn't, ask him to get one for you, and when it comes have it set up and try it. If you are convinced that it is what you want, buy it and try it on your sheep with the distinct understanding that it must do the work O. K. or no sale.

THE STEWART BALL BEARING MACHINE No. 9

is just the easiest of all shearing machines to turn. A boy can run it all day without tiring. It is ball bearing throughout, including a ball bearing shearing head, shears quick and evenly all over.

The price including four sets of knives is only \$11.50. It is really a wonderful machine and you will be agreeably surprised at the work it does.

Get your dealer to send now, or if you prefer send \$3 and we will ship C. O. D. for balance and you may try the machine and if not satisfied we will refund all you paid out.

Send for copy of new 1912 catalogue and Expert Instructions on shearing sheep.

CHICAGO FLEXIBLE SHAFT COMPANY

115 La Salle Ave., CHICAGO



Dip for Dollars

You actually put dollars in your pocket when you put your hogs through a bath of Dr. Hess Dip and Disinfectant.

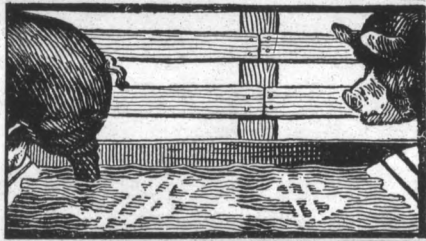
Its action is swift and sure—it prevents scurvy skin—kills lice and fleas which so often hide and play havoc behind the hog's ears, between the folds of the skin, and around the abdomen.

Dr. Hess Dip and Disinfectant

prevents mange, scab, hog cholera and all parasitic skin troubles. It is a powerful disinfectant, germicide and deodorizer, equally effective on sheep, horses, cattle, dogs and poultry.

Prepared by Dr. Hess (M. D., D. V. S.) and sold under a money back guarantee if not satisfactory. One gallon of Dip makes 70 gallons solution. If your dealer can't supply you, order from us direct.

Write for Free Dip Booklet.
Dr. Hess & Clark, Ashland, Ohio.



Give Your Horses a Hair Cut



before you put them at the spring work. Take off the winter coat that holds the wet sweat and dirt. Clipped horses look better, get more good from their feed, rest better, feel better and do better work.

Clip with this
STEWART BALL BEARING MACHINE
It turns easy, clips fast and stays sharp. Gears are all file hard and cut from the solid steel bar. They are enclosed, protected and run in oil; little friction, little wear. Has 6 feet of new style easy running flexible shaft and the celebrated Stewart singe. \$7.50
gle tension clipping head, highest grade. Price

Get one from your dealer or send \$2 and we will ship C.O.D. for balance.

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Write for complete new catalog showing world's largest and most modern line of horse clipping and sheep shearing machines.



Time Has Told

Don't experiment with every remedy under the sun for Spavin, Ringbone, Curb, Splint, Capped Hock, Swollen Joints or lameness of horse or man.

Kendall's Spavin Cure

has been the old reliable remedy for 35 years. Try it. Granby, Mo., May 14, 1911.
Gentlemen:—Have used your Spavin Cure for 25 years and have cured many spavins. I do not think it can be beaten. Very truly yours, C. L. England.
\$1 a bottle, 6 for \$5. All drug stores. Ask for free book, "Treatise on the Horse," or write to—
DR. B. J. KENDALL CO., ENOSBURG FALLS, VT.

Breeders of Jacks and Percheron Horses—20 three year old jacks, 15 yearlings. Some nice Percheron Stallions, Mares, Colts and Tamworth swine. All stock registered or subject to registry. We would be glad to have you visit our farm or write for circulars. H. T. Brown & Co., 156 W. Short St., Lexington, Ky.

JACKS and MULES

Raise mules and get rich. 18 jack and mule farms under one management, where can be seen 400 head fine large jacks, jennets and mules, 14 to 17 hands high. Good ones. Stock guaranteed. Write for prices today. Address

Krekler's Jack Farm
West Elkton, Ohio
Branch Barn—Clinton, Indiana

JACKS.

Biggest jack offering ever made. 90-day sale on 55 head of extra big registered Mammoth jacks at 60% of their value. Prices \$250, to \$1,200 each. I am importing 200 Percheron and Belgian mares and 80 stallions and must close out a lot of jacks to get money and make room. Write for catalog, photograph, description and price list.

W. L. DeCLOW,
Cedar Rapids Jack Farm, Cedar Rapids, Ia.

a colt as though she had not been bred until she was four or five years old, so by breeding them when they are colts themselves you are not only getting a small, weak, undersized colt but are damaging the mare as well.

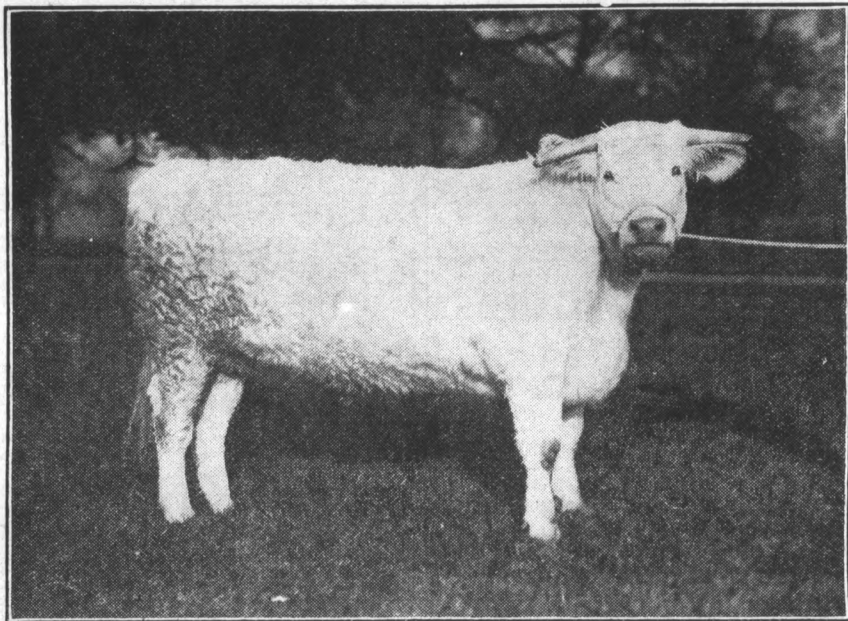
A mare in foal will not do the work as freely as she would if she were not, and by breeding a colt at two years of age you are robbing her of her ambition before you know how much she has. You are making an old horse of her before she is through growing. Many seem to think it best to breed them when they are very young because "they are more easily gotten in foal," while, by so doing they are striking an indirect blow at the stallion service law, the purpose of this law being to drive out the scrub and unsound stallions and thereby improve the size and quality of our horses, by producing a weak and undersized colt that never will be a credit to its breeder or owner. But that is not all, these colts, already of a weak constitution cannot produce a strong healthy colt except under favorable conditions.

Of several that have tried it I know of but one who has had any success in raising colts from exceedingly young mares. However, if any of the readers of this

that they be tight so as not to admit air at any point except at the bottom of the stable. The intake flues may be constructed of any material desired, either of wood or iron pipes, or built in the walls of the stable, or even in the window casings, as is often done in modern stables with entire satisfaction. The material is not of great importance so long as the flues are of the proper construction to insure the performance of their functions in stable ventilation. It is particularly essential that the out-take flue be of such construction that it will simply act as a chimney to insure adequate ventilation.

LIVE STOCK NOTES.

Hogs have sold recently at the highest prices recorded for a long period, thus reversing the predictions of big Chicago packers, who, several months ago, said the market would drop to a \$4.50 level before the termination of the winter packing season. This reversal of general expectations has taken place in the face of an enormous increase in the number of hogs packed at western points during the winter packing season that closed the last day of February, and the good prices paid must be ascribed in great part in justice to the remarkably liberal demand for hogs in the western markets, es-



Copyrighted Photo by F. Babbage.
SHORTHORN STEER "MARMADUKE."—First and best animal under two years, Smithfield show. Owned by King George V. of England.

paper have had any success along this line, would like to have them write, as I am anxious to have this question discussed in the columns of this paper.

Cass Co. J. D. BENT.

STABLE VENTILATION.

Would like all information you can give regarding King system of ventilation for sheep barn 44x80 ft. by 9 ft. high. How many and what size foul air flues would it require, and where should they be placed? Also please give number, size and location of fresh air intakes. Please describe manner of construction of flues and intakes, and specify material.

Isabella Co. N. P.
In his book on ventilation, Professor King gives the capacity for ventilating shafts in sheep stables as follows: If the out-take flue has a height of 15 feet, the number of square inches of ventilating space should be no less than 17 square inches per head, for sheep. If 20 feet high, then only 16 square inches per sheep of ventilating capacity need be provided, and the capacity may be proportionately decreased with the increased height of the ventilating shaft at about this ratio. The out-take flues should be started near the floor and extend up through the roof of the stable or building, the aggregate capacity per square inch being equal to the requirements of the number of sheep kept in the stable, rather than to the size of the stable itself.

The out-take flue may be a single flue or more, arranged with a view to convenience. The intake flues should be more numerous and placed upon the sides of the stable opening on the inside at a higher point than on the outside and with provision for closing those on any side of the stable from which the wind may blow strongly. Their aggregate capacity, however, should be the same per square inch as that of the out-take flues provided.

The material from which the flues are made may be suited to conditions. The out-take flues are generally made of matched lumber of two thicknesses, using building paper between, or they may be constructed of galvanized iron, or any other material, the essential factor being

pecially in the Chicago market, for shipment to several eastern packing points that do a large amount of business in the way of manufacturing fresh pork products, as well as lard, cured pork, hams, bacon, etc. Within a few weeks this outlet has grown to surprisingly large proportions, eastern shippers taking the best droves of hogs that have been offered on the market, and this furnishes the best of evidence that the supply of matured hogs throughout the country east of Chicago has become pretty nearly exhausted.

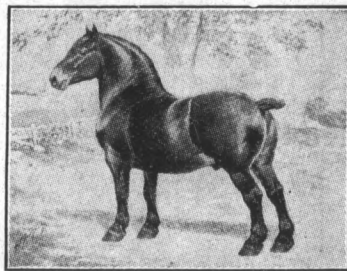
Ever since it was definitely settled that the price of corn was to rule exceptionally high the farmers of the west have with great unanimity decided to hurry their hogs to market as soon as they attained decent size, refusing to take any chances by holding on to maturity. By this means the greater share of the crop of hogs has been marketed considerably earlier than in most former winters, and close observers are looking for much smaller receipts of hogs at western markets after the close of March and higher prices. This will account for the liberal way that the packers have purchased hogs from day to day, despite the firmness in prices much of the time and their failure to drop to the predicted lower level. Of late the range of prices has narrowed materially, and the great bulk of the receipts now sell very close together. There is now every reason for believing that owners of growing young hogs will reap satisfactory profits by keeping their droves until they attain heavy weights, and some farmers have decided to do so.

The market for sheep and lambs of late has undergone such pronounced improvement that sheepmen should feel encouraged, and it is time the free marketing of only partially fattened flocks came to an end. Feed is dear, it is true, but good profits are still made in preparing well-bred flocks for the market and sending them in good and fat. Prime lambs, yearlings, wethers and ewes have sold recently at much the highest prices seen in a long time. Thus far, however, there has been an extremely small demand for feeders and most of the flocks on the feeder order have been sold to killers at low prices, country buyers lacking the courage to take due advantage of the fine opportunities. Most of the demand for feeders comes from Michigan, and this has been the rule all the winter.

Several weeks ago it was expected that Mexico would export about 200,000 head of cattle, mainly on the stocker order, to the southern portions of the United States, but the Mexican revolution has spoiled any such business. Meanwhile southern stockmen are short on cattle for feeding especially in Texas, New Mexico and other states of the southwest.

HEWO STOCK FARM

The Home of the



BELGIANS

This announcement is for the men who know a horse, who need a horse, and who are familiar with values when they find something suitable. Have you, Mr. Stallioner, spent dollars uselessly searching for a first-class Belgian stallion or a No. 1 Belgian mare for a price at which you could afford to own same? Have you, Mr. Prospective Purchaser, decided where you are going to find what you want?

We want to state here, and to state most emphatically, that our twenty-five years' buying experience in Belgium, and our selling system (all stock sold at the farm), places us in a position to sell a good stallion or a good mare at prices beyond competition.

We are talking of good horses, not the mediocre kind, and we are in position to sell this good kind at lesser figures than are demanded by some firms for the ordinary sort. If you are in the market for an extra good imported Belgian stallion or mare, come to Hewo and save all these useless side trips, secure a horse that represents every dollar that is demanded for same, and be a gainer of several hundred dollars on account of "the difference in price."

We have a number of home bred colts at extremely reasonable prices.

"Remember, Nothing but Belgians."

Don't wait to write, visit.

H. & H. WOLF, Wabash, Indiana.

Take the time; come to our barn; get a Stallion. A whole barn full of good ones. Don't buy an inferior horse and complain. Buy of us and be satisfied. Our old customers buy again; why not you?

We always handle the good ones and will use you right. Give us a trial. It will be worth while.

GEO. W. SOUERS & SONS,
601 to 949 West Matilda St.,
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Our Stallion Service book for 10c.

Why not buy a DRAFT STALLION

Splendid Selection of
Percherons & Belgians

—AT—
BELL BROS., Wooster, Ohio.
Write for Catalog.

PERCHERON

Stallions and Mares of quality.
At Reduced Prices.

A. A. PALMER & SONS, Belding, Ionia Co., Mich.

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Two to 4 years old, imported and American bred. Choice colors, lots of bone, weighing or maturing 1,800 to 2,300 lbs. Three importations last few months, others to follow soon. Prices below competition, I sell them low and they go fast.

LEW W. COCHRAN,
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Percheron Mares for Sale—1 grey 7 years old, weight 1700, extra good brood mare, have 3 of her colts to show, price \$325. 1 brown, 12 years old, price \$400; one of her 4-yr.-old colts same color make well matched pair, \$400. All bred. Registered in P. S. of A. Also 1 yearling stud colt, price \$300, and one imported Belgian mare, 10 years old, took 1st prize at International in 1905. Price \$400. Joseph Parker & Sons, Cassopolis, Cass Co., Mich.

FOR SALE OR TRADE!

A 4-YEAR-OLD BELGIAN STALLION,
Weights 1980 lbs, right in every way! Also two young JACKS, one coming two years old and the other coming three. Right in every way. Address
W. G. HIMMELWRIGHT, Frankfort, Indiana.

CLYDESDALES—Some fine registered Clydesdale Stallion Colts for sale, American bred, ready for service. F. A. PETZ, Capas, Mich.

MICHIGAN AGRICULTURAL COLLEGE has for sale cheap an aged imported Clydesdale Stallion or will exchange for a Percheron or Clydesdale mare. Write H. S. HUDSON, East Lansing, Mich.

For Sale—PERCHERON STALLION CHESLER No. 61216, coming 3 in May, 1912. A good one. Charles R. Dean & Co., R. No. 1, Vermontville, Mich.

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A DIPPING TANK OR A HOG WALLOW WITH KRESO DIP NO. 1 WILL DO THE WORK

THERE IS NO EXCUSE FOR LOUSY MANGY UNTHRIFTY PIGS. IF YOU HAVE SOME OF THIS KIND YOU WILL FIND IT WORTH WHILE TO GET OUR CIRCULAR ON TANKS AND WALLOWS. IT TELLS HOW TO MAKE THEM OF CEMENT

KRESO DIP NO. 1 IS A REAL NECESSITY ABOUT ALL LIVE STOCK FOR KILLING LICE, TICKS, MITES, FLEAS, FOR TREATING SCAB, MANGE, RINGWORM, AND OTHER SKIN DISEASES. TO DISINFECT, DEODORIZE, CLEANSE & PURIFY.

ALL OF THESE USES FULLY DESCRIBED IN OUR BOOKLETS. WRITE FOR COPIES. ASK YOUR DRUGGIST FOR KRESO DIP NO. 1

PARKE, DAVIS & CO., DEPARTMENT OF ANIMAL INDUSTRY, DETROIT, MICH.



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(Sold with or without elevator) CRUSH ear corn (with or without shucks) GRIND all kinds of small grain. Have Conical Shape Grinders. Different from all others.

LIGHTEST RUNNING (Our Circular Tells Why)

Handy to Operate. 10 Sizes—2 to 25 h.p. Capacity 6 to 200 bushels. We Also Make Saws Grinders. FREE Booklet on "Values of Feeds and Manures." D. N. P. Bowser Co., South Bend Ind.

FEED MILLS

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Durocs and Victorias—Young sows due Mar. & April. Bred to 1st prize and champion boar. Priced to move them. M. T. Story, Lowell, Mich.

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

MAKE the boy a stock breeder and keep him on the farm by giving him a Berkshire gilt bred for spring farrow. Buy one now, cheap. C. S. Bartlett, Pontiac, Mich.

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Improved Chester Whites—A few choice young sows, bred for late March & April farrow. Also three young boars, cheap, to close them out. W. O. WILSON, Okemos, Mich. Both phones.

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

CLOSING OUT SALE. Butler's Big Type Poland Chinas. Everything goes, Herd Boars, Bred Sows, fall pigs and gilts, Jersey bulls. Write for what you want, we will quote you a very low price. J. C. BUTLER, Portland, Michigan.

LARGE TYPE P. C.—Largest in Michigan. Pigs from mammoth sires and sows. Weigh 160 to 175 lbs. at 4 months. My motto: "Not how cheap but how good." Will pay expenses of those who come and do not find what I advertise. W. E. LIVINGSTON, Parma, Mich.

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POLAND CHINAS—Either sex, all ages. Something good at a low price. P. D. LONG, R. No. 3, Grand Rapids, Mich.

Poland Chinas—Bred from large type. Stock all ages, both sexes, at Farmers prices. W. J. HAGELSAW, Augusta, Michigan.

15 Poland China Sows bred for spring litters. Will ship c. o. d. priced to sell. WM. WAFFLE, Coldwater, Mich.

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Big Type P. C. Sows bred to Big Bone Junior. A. A. WOOD & SON, Saline, Michigan.

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Poland Chinas—Home of Michigan's Grand Champion Boar. Bred sows & fall pigs by this great sire. They're priced right. E. J. Mathewson, Nottawa, Mich.

Lengthen Out Your Hogs—A YORKSHIRE Boar will do it. FOR SALE BY WATERMAN & WATERMAN, Meadow Land Farm, Ann Arbor, Michigan.

Lillie Farmstead YORKSHIRES. Boars for spring service. A few bred sows. Also sows bred for August and September farrow. Pairs and trios not a kid. Satisfaction guaranteed. COLON C. LILLIE, Coopersville, Mich.

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VETERINARY

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

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

Light Milker.—Five weeks ago when my Jersey cow came fresh, she gave a watery fluid instead of a good quality of milk. Our local Vet. prescribed for her and now she gives a small quantity of good milk, but too little of it. She appears to be perfectly healthy, eats enough but does not convert it into milk. She is laying on flesh. O. L. Midland, Mich.—The very best you can do is to feed her liberally of milk-producing food. Nearly all cows are inclined to either produce large quantities of milk or a small quantity of milk and appropriate the balance of nourishment to building tissue.

Warts on Udder and Teats.—What can I apply that will remove warts from a cow's teats and udder without making them sore? My cows are all giving milk. W. B. Brighton, Mich.—Apply acetic acid to warts to remove them, then apply castor oil to finish the work.

Blind Quarter.—Have a cow that will soon come fresh which gave only a watery fluid from one quarter last year. How can I manage to get milk from this diseased quarter when she comes fresh? A. H. H. Kingsley, Mich.—If the quarter has retained its function and secretes milk everything may perhaps be all right, but I doubt it. Drugs will not cut much figure in this kind of a case.

Injured Quarter.—My dog chased our five-year-old cow, causing her to injure udder and she gave bloody milk from one quarter. A bunch formed in this part of bag, her milk became stringy and I finally dried her in this quarter. What can be done when she freshens, and I might add that it was impossible to use milking tube on her last year. H. C. Alpena, Mich.—Apply one part iodine and ten parts lard to obstructed quarter every day or two. This may clear quarter, but I doubt it.

Bursal Swelling.—I have a two-year-old cow that has a soft bunch on outside of shin close to hock joint. This swelling must cause some soreness for she walks a little lame. J. S. Fowlerville, Mich.—Apply one part red iodine mercury and eight parts cerate of cantharides every week.

H. L. D., Freesoil, Mich.—I do not think best to express an opinion as to what caused the death of your sow or your neighbor's sows that were mated to your neighbor's boar. Your own sows were perhaps not properly castrated or did not receive proper care following the operation.

Congestion of Spinal Cord.—Some of my sheep have died from a peculiar sort of disease. The first symptoms are holding head straight up and curb nose in towards breast; these symptoms last about two days, then they point the nose straight out, resting the head on sill of barn or fence rail. Most of them duel from mouth and snap and grind teeth together. They take the standing position until they fall over, then stretch out and draw their head straight back and shake like a horse that has fits. They then froth and snap until they die. I opened one which looked healthy inside, one had three lambs, the other ewes had two. Three of my ewes died and two more are acting as if sick. Our local Vet. says nothing can be done for them. L. V. G., Decatur, Michigan.—It is possible that your sheep have not been fed a balanced ration, or the cold weather may have produced spinal congestion. I do not believe that treatment will have much effect on them; however, I suggest that you give them either castor oil or epsom salts to open bowels and also give small doses of iodide potassium and nuxvomica.

Partial Paralysis.—What can I do for pigs that are gradually losing the use of their hind quarters, and some of them are so bad that they have died. W. A. P., Summit City, Mich.—Give 5 grs. sodium salicylate at a dose two or three times a day; also give a little lime water in their feed twice a day; also feed less corn, more oats and oil meal.

Sore Throat.—I have two fall pigs that seem to have sore throat, considerable swelling took place in throat and extended to between fore legs and they keep mouth partly open. Neither of them seem to be able to eat, but they are not quite as sick as they were a few days ago. Their sickness lasts three or four days and I would like to know if you believe it a contagious ailment. These pigs ate a portion of a colt that died and I wondered if they were not poisoned. H. T., Pulaske, Mich.—It is possible that their mouth and throat were infected by eating the decayed flesh. Give each pig 2 grs. of quinine, 15 grs. hypo-sulphite of soda and two drops creosote (Beechwood), at a dose three or four times a day. Apply one part coal tar disinfectant and six parts vaseline to swelling once a day.

Heifer with Five Teats.—I have a yearling heifer that I wish to keep for a cow, but she has an extra teat situated near udder and I would like to know if it can be safely removed. R. B., Belding, Mich.—You had better cut off small teat, either with a knife or tie a string around it tightly and allow teat to slough off. I prefer cutting them off, then apply boric acid or any good healing remedy to wound.

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

SPRING FEEDING OF DAIRY COWS.

Now that spring is here and the cows are tired of the long winter's dry feed and close confinement, their appetites are likely to fall and hay and grain will become distasteful to the animals. It must be the feeder's aim to overcome this as much as possible and to give the cows the best of care if he expects them to keep up their flow of milk right along until the new pasture can pick them up and carry them forward.

Those farmers who have silage can meet this spring dairy problem more successfully than those who do not have a supply of this excellent feed. Unfortunately, a majority of the farms are not yet equipped with a silo and with such farmers this problem of the spring feeding must be solved without the aid of silage.

If fodder has been the principal roughage for several months, a change to good clover or timothy hay will work a wonderful change in the appetites of the animals and a material increase in the milk flow will be noted in a very few days. If some change in the grain feed can be made at the same time, all the better. Cows relish a change of feed occasionally the same as their owner, and it pays to make a change whenever they begin to show a decided distaste for their present rations even though some fodder or other roughage that was put up for their especial use has to be sacrificed. Once a change from fodder to hay is made at this season of the year, the animals will not be content to go back to fodder again, though a little of it may be given them occasionally and they will eat it with apparent relish.

At this season the cows should be turned out for exercise for a short time every nice day. The animals probably get the spring fever the same as people and they appreciate the chance for a little freedom from their close quarters. But don't turn them into the pasture field just yet. If cows are allowed to run in fields where they can get a little grass, they will not eat their hay well, and there is not enough nutrition in the grass to maintain bodily vigor and furnish material enough to make milk at the same time. There is never anything gained by having the animals eat the very first green shoots of grass that come up; indeed, much harm both to the animals and to the pasture, is done.

There is very little nutriment in the early spring grass. It is composed largely of water, hence it lacks the nutritive quality which it possesses a little later in the season. Often it has a strong tendency to promote scouring and upset the animals' digestive systems generally. Taking everything into consideration, it certainly is false economy to turn the cows on pasture before it is well started. Even though the young grass did them no harm the saving of roughage made in this way will be paid for later by the shortness of the grass when it is most needed.

When the grass gets a good start, say, from four to six inches high, it is time enough to turn the stock onto it. But don't make the change from dry feed to grass suddenly no matter how much of a start the grass has made, by turning the animals out to get their entire living from the pasture field and thus dropping at once all hay and grain feed. The change in feed that is to be made is quite a radical one, hence it should be made very carefully. The cows, shut up all winter from green feed, will, if permitted to do so, gorge themselves with the fresh grass which tastes so good to them. The result is that their bowels are relaxed suddenly and a consequent weakening of the whole system follows. A marked loss of strength and vitality is suffered and the milk flow will shrink perceptibly. A sudden change from dry feed to grass is especially dangerous when the pasture is largely clover, for then bloating will result if the cows are permitted to gorge themselves with this feed.

The best way to get the cows accustomed to the change of diet in the spring is to let them out a little while each day for a week or ten days, allowing them to get sufficient grass partly to satisfy their appetites and then get them back into a lot. Each day they should be given some hay or fodder and a good ration of grain, which should be decreased gradually until at the end of ten days the grain feed is stopped entirely. In this way the strength of the animals can be kept up while their systems are made ready grad-

ually for the time when they will be turned out to graze all day. By that time the grass should have attained sufficient growth that the cows will not have to spend their entire time on the grass trying to fill up.

Indiana.

W. F. PURDUE.

SILLO QUESTIONS.

I am interested in silos and would like to ask a few questions concerning them. 1. I have been told the best way to treat the inside of the silo to preserve it is to give a liberal coating of strong brine instead of paint. Would you think this plan a good one? 2. Should the roof be put on the silo the first year? 3. Would Evergreen sweet corn make good silage? How would sorghum do?

Clinton Co.

J. J. H.

If it is thought desirable to use any kind of a paint or a coating on the inside of a silo I don't think there is any better than coal tar thinned with gasoline and put on hot. This can be put onto a cement silo if desired, just as well as on a wooden silo. It makes a very good preservative and leaves a nice glossy surface which allows the ensilage to settle well.

The roof should be put on the silo when it is built. You want the roof the first year just as much as you want it the second year. It is not a bad plan to leave an opening in the roof after the silo is filled until after there comes a good rain because a little moisture on top of the filled silo is a good thing to help settle it, but we can't afford to wait for this long because it may not rain. It is better to elevate water with a rope and pulley and wet the top thoroughly if it is going to be left any considerable length of time. This ought to be done immediately after filling, i. e., within a day or two.

Evergreen sweet corn makes good ensilage. Some people think it is not quite so good as dent corn or flint corn because it is liable to be a little bit more acid, but nevertheless if the sweet corn is left until it is mature it makes good ensilage. Sorghum also makes good ensilage but it is not as good as corn. We can't afford to grow sorghum in the place of corn for silage in this latitude.

A SILO FOR A SIXTY-ACRE FARM.

Would it pay me to put up a silo for 15 or 20 head of stock and go in debt for it? I have 60 acres of land which is good corn land. From 8½ acres I raised 900 bushels. The question is, would I get more value from it in a silo, or shall we continue to husk by hand and cut up the stalks in the old-fashioned way?

St. Clair Co. SUBSCRIBER.

If you want to keep any considerable amount of live stock on a 60-acre farm there isn't any question but what a silo would be profitable. The practicability of the silo has been explained many times. You can save from 20 to 25 per cent of the food value of the corn by putting it into the silo. Now the only question is whether 20 per cent of your corn is worth saving, taking into consideration the cost of the silo. You can harvest the corn cheaper, it is better food in every way, and you save much of the food value of the corn plant when you put it into the silo.

THE VALUE OF GOOD BREEDING AND CARE.

Just what can be accomplished by good breeding and care of dairy cows is not always easy to express in figures but occasionally there are found illustrations that put the matter before the reader in a way that is unmistakably proof of the utility of these two factors in the building up of a dairy herd. W. H. Standish, of Fulton county, Ohio, is an excellent example of what a practical farmer can do in the way of breeding up a good herd of dairy cattle. This man began 26 years ago with a few head of cows. By judicious selection and breeding he has succeeded in producing what is considered by representatives of the College of Agriculture as one of the best herds of Holstein cattle in the country produced by a single individual. He has eleven head of cows for which he has been offered \$25,000. Mr. Standish recently refused \$600 for a two-months-old heifer calf, the mother of which has a record of producing 111 lbs. of milk in one day and her official seven-day record is 34.6 lbs. Last year one of his cows produced 119 lbs. of milk in one day. No official records of these cows were kept until last year, but since that time their fame has spread and buyers have come into the community and bought up \$7,000 worth of descendants of the herd. Mr. Standish is considered to be a competent cattle judge and has officiated in many shows in this country and in Canada. He has a farm of 90 acres. He

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and many others like them, good dairy farmers as well as great leaders in every sphere of human endeavor, each of whom is possessed of much personal experience and a thousand authoritative sources of separator information, are among the 1,375,000 satisfied users of DE LAVAL Cream Separators?

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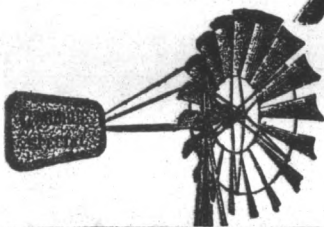
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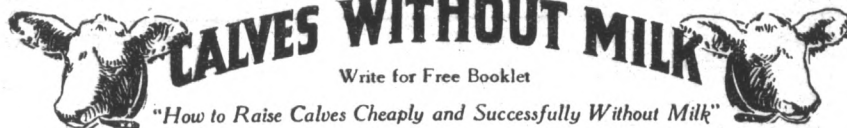
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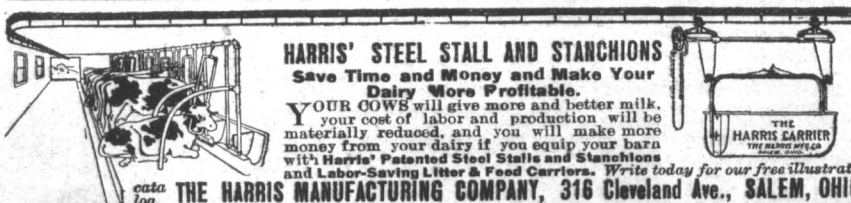
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feeds all his crops and buys commercial feeds, returning the manure to the land. In this way very little plant food is sold and his soil is becoming very productive.

THE POOR MAN'S BUTTER.

Since the convening of the present congress, there has been set afloat a pitiful plea, that on account of the ten cent tax on colored oleomargarine, a rank injustice is being done the poor laboring classes, for they say we are "taxing the poor man's butter," which adds to the already high cost of living. We are ready to assert that the government is not taxing the substitutes which the oleo manufacturers make, and would like to sell as butter, but the tax is on the color that is added to their farraginous compounds, which they fix up and make look like butter, and if it were not for the government supervision would sell as genuine butter. The tax must be paid on the colored stuff, and it must be sold for just what it is. The consumers can take their choice, buy the same mixture, colored or uncolored, and know what they are getting.

The law requires that an "analysis," or printed revelation of the ingredients used, go along with mixtures sold. I have before me an "expo. of ingredients" in a certain brand of oleo sold in our town. It reads: "Creamery butter, neutral, oleo oil, vegetable, oil, milk, cream and salt."

Well, now is that a fair and lucid description of the ingredients of the package? Not a word said about the percentage of each of the ingredients. We can give a good guess as to the percentage of creamery butter and also the cream used. The more mysterious and incomprehensible the description, the greater should be our faith in the potent forces contained in the nutritive elements in that farraginous compound. If our faith is as big as a grain of mustard seed, we must believe that it is delicious, and nutritious, provided that it can be colored and sold to the "poor laboring man" for butter, without compelling the manufacturers to pay a tax on it before it can be sold.

If that description of ingredients were to be shorn of its non-committal verbiage (and it should be), it would read about as follows: "A mass of materials confusedly mixed, containing several kinds of greases, fats, oils and milk, with just enough cream and butter to give us an excuse for calling it butter, and a pretended reason for asking that it may be colored and sold for butter without the imposition of a tax."

It is a shrewd game that these free-booters who don a cloak of virtue and plead for the "poor man's butter," try to play. With no tax there would be no government supervision, and these shysters of the trade in a mixture of greases, fats and oils, could color their compounds and sell it to the credulous consumers for genuine dairy butter. While they plead for the "poor man's butter," it would give them a chance to sell to the "poor man" for his family use, a mixture, the average cost of which does not exceed ten cents per pound. With the prospects before them of several hundred per cent profit, we can see why they are so solicitous for the "poor man."

It is a fact too well known to require any words of emphasis, that good, pure, wholesome butter, made from the cream taken from the milk of the cow, is the most palatable of anything of the kind yet discovered to use with our meals, and the most nutritious, because easily digested and assimilated, of anything used since the dawn of civilization. Milk and butter is a kind of food relished by people of all ages and classes. It is a fact to be regretted that the supply of good, wholesome butter, made from the milk of cows, is not sufficient to enable all the people of all classes to have all they desire at all times. If some, from necessity, must use butter substitutes, it is only just and right that they have the privilege of knowing what they are using, and only compelled to pay the proper price for what they are using. There are those who are willing to pay the price for the genuine article of dairy butter, and they should not be deceived by having a substitute that is made of inferior and undesirable materials, palmed off on them under the name of dairy butter. It is but right that all classes should have a square deal!

Instead of yielding to the demands of the unscrupulous sheep's clothing manufacturers of butter substitutes, who make a specious plea for the "repeal of the law, that, as they say, 'taxes the poor man's butter,'" it would be far better to make a persistent effort to stimulate a greater interest in the production of gen-

uine dairy products, until each and every family in this great country of ours, can be supplied at prices within the reach of all honest laborers who are willing to use their wages in a prudent manner.

Wayne Co.

N. A. CLAPP.

INTENSIVE DAIRYING.

Barring the possibility of renting or purchasing more land where foodstuffs may be raised, and disregarding the initial cost of buying stock, can a reasonable profit be realized by keeping eight to a dozen good dairy cows (part pure-bred Guernseys to start with), on a fruit and poultry farm where all feeds must be bought? There is a fairly good woodland pasture of about ten acres. Market possibilities as follows: Splendid retain trade for milk during the summer to resorters. During the other months of the year cream is readily sold at retail in town, or may be made into butter which has a ready market. The skim-milk can all be used to good advantage in poultry feeding. The value of the manure, an important asset on a fruit farm, and also the value of the offspring enlarge the credit side of the account. Of course, the profit would be controlled to a large measure by the character of the ration and the market price of foodstuffs. This whole question is instigated by the following three factors: First, the demand for milk in the summer time; second, the need of a ready supply of barnyard manure, and third, the desirability of skim-milk as animal food for poultry.

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Of the three factors given as a reason for such intensive dairying only one is in my opinion, worthy of consideration, and that is the demand for milk. If one has a good market for milk so that he can make dairying profitable then there is good reason for dairying, but I would not go into dairying with the idea of furnishing manure because you can get the manure cheaper some other way. Neither would I go into dairying for the purpose of furnishing animal food for poultry because you can get this animal food in another way and possibly cheaper. But, if you have a market for dairy products which will enable you to make a profit out of keeping cows, then these other factors, which are by-products of dairying, are worth considering. As a matter of fact, you have to consider them. The manure has to be taken care of and the skim-milk must be disposed of, and when we have such products then we look around for the best way of using them. To be sure, the fruit farm can use this good stable manure to advantage, and besides the growing poultry can utilize the skim-milk to good advantage, but you can get the manure for the fruit farm by the use of commercial fertilizers and cover crops and you can get the animal food for the poultry in the form of condensed buttermilk or animal matter from the slaughter houses probably as cheap as you can get it in any other way.

Where one likes the business of dairying and will give it sufficient attention there is no question but what a good profit can be made even where it is necessary to purchase all feed. In the cow-testing work, both in this country and in the old world, the dairy cow is charged with the food which she consumes at the market price of those goods, and she is given credit for the milk, or butter-fat she produces at the market price. The manure and the skim-milk and the calf is thrown in to offset the labor. Now, in the state of Michigan we have records of four different cow testing associations for a year where something like 1,200 cows were tested. They were charged with all the food they consumed and given credit for the butter-fat which they produced, and on an average for the 1,200 cows they returned \$1.85 for every \$1 worth of food which they consumed. Now these were average cows kept by average farmers under average conditions. Perhaps I ought to modify this and say that these cow testing associations are located in one of the best dairy districts in the state and that the dairymen who belong to these associations are probably the best dairymen in their districts. But even this being so, it seems to me that it is a good showing for dairying. If you can get \$1.85 for every \$1 worth of feed which is consumed under these conditions a good man with a select herd, with a market which will bring him in greater profits than simply selling butter-fat, will enable him to purchase all of the feed which his cows consume, and turn that into a dairy product with a good profit. Then you have got the manure and skim-milk as by-products which can be utilized to advantage on the farm.

It is easy enough, however, with a herd of poor cows, poorly handled, fed and managed, to make dairying a failure, and there would be no fun in pursuing such a class of dairying if all you got out of it was the skim-milk and the manure.

HORTICULTURE

PROFIT IN GROWING ASTERS.

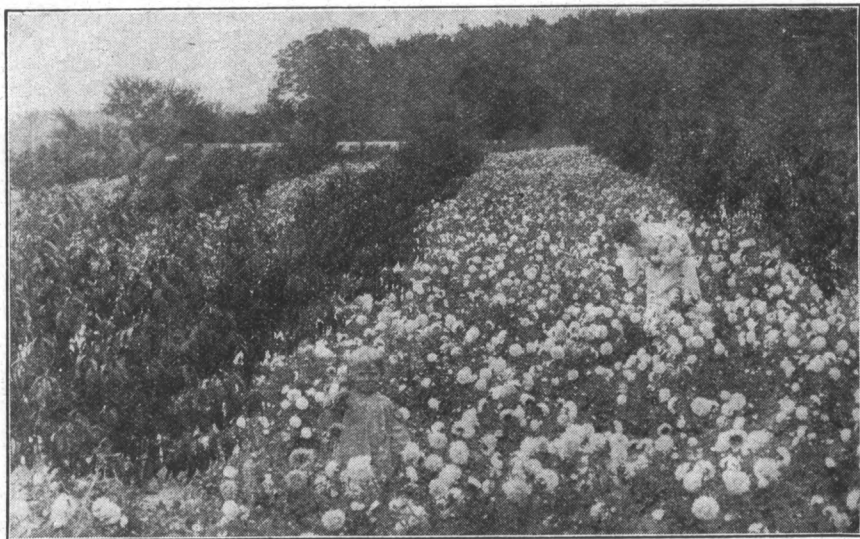
There are many farms in the country that possess great opportunities because of a favorable location and soil, for the intensive growing of special crops. Some farmers have improved upon these opportunities and have become very successful but as a rule, these chances are seldom developed. Most farmers continue to grow the same crops year after year, no matter how conditions about them change and fail to adapt their business to their new environment. In the outskirts of a small growing city, hay, corn, wheat and oats continue to be the crops with most farmers until the land is purchased by the real estate agent for house lots.

A condition of this sort confronted a young man in a little New England town. His farm was rather small, but being near the town possessed good shipping facilities to a nearby city. The best portion of the farm had already been planted with young peaches but being without much capital, it was necessary for him to utilize the space between the trees with some crop that would give a quick return without requiring a heavy investment. There are not many kinds of

Purity and the late Branching varieties, as Semple's Branching, especially the white and light pink sorts. Also a few dark purple and crimson ones may be selected, but be sure to have plenty of whites. Most florists do not have enough of this color. They buy a packet of each color when they should have at least a third white. The light pink Daybreak is also a fine seller and plenty of this kind should be at hand.

Seedlings may begin about the middle of April or as soon after as the soil is ready to work. A fine seed-bed should be prepared and the seed sown in very shallow drills eight or ten inches apart. Successive sowings may be made every week or two until the latter part of May. This will give a proper succession of flowers. The plants must be well cared for in the seed-beds, never allowing them to dry out or become stunted in any way for they must be kept constantly growing to give the best results. For this reason, the soil on which these plants are grown should be well fertilized, but not with fresh stable manure. Commercial fertilizer may be used, or better still, a heavy coat of well decomposed stable manure may be applied the previous fall and well worked into the soil.

The distance the plants are set in the field depends much upon the system that is to be used in cultivating, and the richness of the soil. If the soil is very fer-



Harvesting an Aster Crop.

tiling that offer such inducements but realizing the advantages which this meager one-horse farm possessed, he took advantage of them by growing flowers. These are not the easiest things to grow but a good many can be produced on a small area.

Beginning in a small way, which is the wisest way for any inexperienced person to begin, he started growing asters. There is always more or less of a demand for these flowers in their season and the commercial florists with greenhouses do not generally grow enough to supply the trade. It opens a field therefore, for many small farmers situated in small towns or near large cities to enter this industry. It does not demand any special investment for buildings or expensive machinery, and with proper care, gives very quick returns. Favored by a rich sandy loam soil with a southern exposure, which is ideal for these crops, this young man has been successful in his work from the first. He has had many difficulties to overcome; dry seasons, insects and diseases or over-loaded markets, troubles characteristic of almost all lines of agricultural production, but in a large way, he has been successful. So successful, in fact, has he proved in this venture that he has now erected a good-sized greenhouse from his profits in flowers and may now continue to grow them winter and summer.

For the benefit of those who may care to consider this work, a few suggestions to prevent costly mistakes may prove valuable.

Asters being one of the easiest flower crops of all to grow, make an excellent flower for the beginner. A great deal of care should be exercised in the selection of the seed. Poor seed not only produces many "daisy-centered" flowers which are worthless for commercial sale, but the plants from poor seed are apt to be small, producing short stemmed flowers. Large double flowers with long stems are most desired so only the best seed from a reliable seedsmen should be purchased even if the price is considerably higher. Much of the success of growing asters depends upon selection of the right varieties. Some of the best for commercial growing are Vick's Early Branching, Daybreak,

tile and the area of land is limited the plants may be set a foot apart in rows 18 inches apart. With a less fertile soil, they may be planted 18 inches apart each way and this will allow room enough to work both ways with a horse cultivator, eliminating all hand hoeing. An ideal time for transplanting to the field is just before a shower or late in the afternoon. Water the plants well in the seed-bed at least two hours before transplanting and then when ready to plant, dig carefully, retaining as much soil on the roots as possible. Never allow the roots to be exposed to the sun or dry winds, but cover with a wet burlap sack or carry the plants in a pail of water. Plant carefully, spreading the roots out in their natural position and firming the soil well about them. Very shallow cultivation should be frequently given, never allowing the top of the soil to become packed.

To produce the largest flowers with the longest stems, it is often better to confine the energies of the plant into the production of a few flowers rather than allowing each plant to produce many. Dis-budding is therefore, often practiced which consists in pinching off all buds except those desired to mature flowers. The buds selected for flowers will depend upon the variety grown, as well as the number of flowers one decides to let each plant mature. Sometimes it is best to allow only one blossom to a plant, hence all the lateral buds are picked off. With the branching varieties, although more flowers are generally produced on each plant, many of the weaker buds are cut off early in their growth to stimulate the others.

When the picking season arrives, the flowers should be cut before they have fully expanded and placed in water in a cool room two hours or more before shipping. Early in the morning or in the evening is the ideal time for cutting. Use a sharp knife or scissors for cutting that the plants may not be disturbed or injured by pulling off the flowers. Only the best of the flowers should be sold unless two grades are made. There is sometimes a demand for short-stemmed asters by florists for the making of set-pieces but the first grade flowers must all be perfect specimens. A few imperfect



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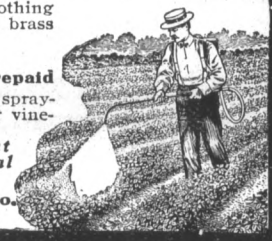
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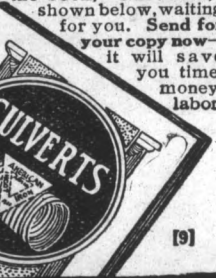
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flowers in a shipment will spoil the entire lot. Many growers lose heavily by careless packing. Neat, attractive packages should be secured and the flowers very carefully placed in them so they will ship without injury. They may be sold entirely through a commission dealer in flowers or to local florists. Large hotels use a good many flowers for table decoration, and contracts may often be made to supply them for the season. As a rule, however, it does not pay to try to gain all the profits by retail selling, as the amount sold in this way is quite apt to be very limited. Select a few good florists or a good commission house and let them dispose of the crop for you. Your energies then may be confined to the growing and shipping and in the long run, your venture will prove most successful.

Mich. Agri. Col. C. P. HALLIGAN

IS LIME-SULPHUR INJURED BY FREEZING?

Many inquiries have come into the college as to the effect of freezing on commercial lime-sulphur. This is a question of considerable importance because many farmers have on hand a quantity of this spraying material. It is altogether probable that some of this was stored where it might have been frozen during the severe weather of the last winter.

An investigation was conducted with a view of finding out whether the lime-sulphur was injured by freezing, and if so, to what extent. A preliminary trial seemed to indicate that it would be injured to a considerable degree as there was an apparently large amount of sediment deposited.

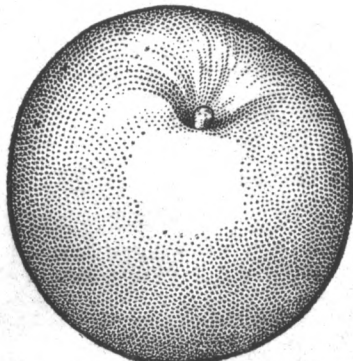
The conditions under which the experiment was conducted were made as near normal as was possible. The lime-sulphur was taken from original packages from which some material had been used the fall before for thesis work. It was tested with a mercury Baume hydrometer, graduated to fifths of a degree, when it was taken from the storage dishes. The reading was recorded and the lime-sulphur put in air-tight glass jars, leaving room for expansion at the top. Jars were marked with numbers so as to be impartial in the second readings. The jars were then placed in a mixture of salt and snow and left there for about twelve hours. They were then taken out and thawed gradually in a warm room. After testing, they were again put in the freezing mixture for another twelve hours. Some may think that a salt and snow mixture is too cold to be practical but it will give only 0 degrees F. while several times the temperature was below 20 degs. F. this winter.

A review of the tests of eight different commercial brands of lime-sulphur wash shows that after the second freezing the hydrometer reading showed an average loss of 1.05 degrees, the different brands varying from .6 degrees to 1.6 degrees.

From the results of this experiment one may draw the following conclusions: It is better not to allow the solution to freeze because it is weakened to a certain extent and because the sediment deposited may be a nuisance when spraying; in case of using after being frozen make the spray somewhat stronger, 1 to 9, if 1 to 10 was the strength used before.

Agri. College. F. H. McDERMID.

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PRACTICAL SCIENCE.

LIMING OF SOILS.

BY FLOYD W. ROBISON.

Lime is a Soil Tonic.

As we stated in our discussion of last week, the pendulum of popular interest once more points to a liberal use of lime as contributing to the maintenance of soil fertility. As we stated previously, lime, as well as various other inorganic constituents of plants, is absolutely indispensable to plant growth and in some respects acts as a direct food nutrient of plants. But in its larger sense its greatest effect is noticeable in its physical action upon the soil. We might therefore term lime more aptly a soil tonic rather than a fertilizer. Physically speaking, probably the greatest effect of lime is noticeable on some heavy clay soils where, by its precipitating powers, it reduces the tendency of such soils to puddle. It thereby makes it possible, when rightly applied to these soils, to work them earlier in the spring and even later in the fall than can be done without the application of lime. On such soils, under proper regulation, lime is decidedly beneficial. It is not politic, however, to apply the doctrine of the application of lime to soils indiscriminately, because, just like the destructive influence of water when it is allowed to act without control upon the soil, a period is reached when, instead of being beneficial it becomes actually detrimental to the soil.

Lime Sets Free Plant Food in the Soil.

Lime tends to cause the liberation of ammonia salts in the soil and in this respect it acts somewhat similar to the denitrifying organisms which act with such destructive force at times. Lime is used extensively about the farm as a disinfectant and because of its caustic nature it is an admirable disinfectant. We remember distinctly an incident cited by the late Dr. R. C. Kedzie, of the Michigan Experiment Station, regarding the disinfecting of poultry houses with quicklime. Underneath the place where the fowls were allowed to roost and upon the poultry droppings, it has been the custom at times to disinfect by means of the application of quicklime. This faulty practice was called to the Doctor's attention especially, because of the complaint that the fowls suffered severely from swelling in the head and many died following the use of lime in this way. The reason for this was made apparent when he stated that there was such an abundant liberation of ammonia from the droppings of the fowls that it had this effect upon the birds. We have noted the same thing when lime is distributed freely in the stable as some farmers are wont to do in order to disinfect the conditions which exist there. On going into such a stable one notices immediately the very strong odor of ammonia which indicates that the urea has been decomposed by the strong caustic lime and the nitrogen which it contains has been liberated in the form of ammonia, which is certainly very undesirable. We are impressed with the fact that when such action as this occurs outside of the soil, a similar condition is likely to prevail where quicklime is applied to the soil in liberal quantities.

Lime Corrects Acidity.

It has been stated that one of the chief functions of lime in the soil is the neutralization of the acidity in the soil. There seems to be a very strong common opinion that many soils are acid, or sour, and chemists have proposed that the farmer determine this question of acidity for himself by applying a strip of litmus paper to the soil, which, if it turns red indicates an acid condition of the soil and thereby the necessity for the employment of lime. We have not doubted at all the desirability of the addition of lime and we know that lime will correct acidity. There has been a strong doubt in our mind, however, as to the fact of the existence of an acidity in the soil anywhere near as generally as is quite commonly conceded even by scientists.

Not an Easy Matter to Prove that a Soil is Acid.

It is not an easy matter to prove acidity in the soil and where we might establish an acidity by means of a strip of litmus paper it might not be at all acid to other indicators. We are impressed with the fact that the method of establishing the acidity of the soil by means of the litmus paper test is by no means a reliable method to follow. About the

best method which we have found for determining, not the acidity of the soil necessarily, but its need for lime, is through the medium of a crop of clover, or especially alfalfa. It has been found by practical experiment that one of the most favorable adjuncts on some soils to the securing of a proper catch of alfalfa is the addition of lime. We do not know that this is because that soil may be acid in character and we do not attribute particularly the beneficial effect of the lime to the neutralization of the acidity of that soil. To just what influences its beneficial effect is due we do not care to venture an opinion but whatsoever its influence, be it physical or be it chemical, in many instances we do know that lime is indicated very clearly in the growth of a leguminous crop, such as alfalfa.

Lime Improves the Texture of the Soil.

We have stated that one great function of lime is an amelioration of the texture of the soil. If a soil becomes heavy and plastic when wet, such a soil if worked out of a special time and period most favorable to that soil and which it is difficult to strike correctly every time, we say such a soil will readily puddle, in which condition it is difficult to work it, and crops do not thrive on such a soil. If now we will work into this soil a little lime, not necessarily quicklime, finely ground carbonate of lime, will accomplish the same purpose, we will find that the soil becomes less plastic and more brittle and crumbly, in which condition it is possible to strike correctly every time, we say such a soil will readily puddle, in which condition it is difficult to work it, and crops do not thrive on such a soil. If now we will work into this soil a little lime, not necessarily quicklime, finely ground carbonate of lime, will accomplish the same purpose, we will find that the soil becomes less plastic and more brittle and crumbly, in which condition it is possible to strike correctly every time, we say such a soil will readily puddle, in which condition it is difficult to work it, and crops do not thrive on such a soil.

Again, some very loose sandy soils are very favorably affected by the use of lime. These soils differ to some extent from the stiff, plastic clay soils and while lime promotes capillarity in the clay soils, it likewise permits the retention of moisture in the loose sandy soils.

We are reminded of an old familiar maxim regarding the use of lime as it was understood generally many years ago:

"Lime enriches the father but impoverishes the son; and lime and lime, without manure, will make both farm and farmer poor."

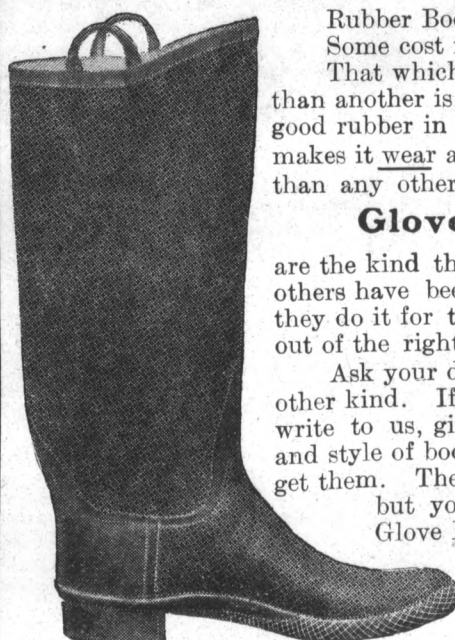
Lime Should be Alternated with Manure.

We will repeat again the position which we have taken in the case of commercial fertilizers and lime, but will call special attention to the difference we would advocate in the handling of each. We have advised that it is unwise to use commercial fertilizers without some organic manure, and we have advised to mix commercial fertilizers with barnyard manures. Now here we likewise advise that lime should be used in connection with organic manures but we call especial attention to the fact that lime should not be mixed with the manure. Lime may be used one season and manure the next, or lime may be used in the fall and manure in the spring, but the two should not be intermixed at the time of application to the soil because of the strong chemical action which will set up, liberating particularly the nitrogen from the manure.

Lime Requires Skill in its Use.

The use of lime advantageously calls for a very intelligent understanding of the nature of soils and crops. As with the use of commercial fertilizers very frequently the effect of lime is not especially noticeable on the first crop. Very frequently likewise its effect is not a direct one but an indirect one. In its relation to alfalfa, for example, probably the chief benefit of lime is in creating conditions favorable to the development of the class of organisms which attach themselves to the roots of the alfalfa and it may be two or three years before the favorable influence of the lime will manifest itself, to such a degree that a really maximum crop of alfalfa may be produced. This same condition is true likewise with commercial fertilizers and the farmer should be ready to wait for an opportunity for the lime and fertilizer to get in its effect before discarding it and testifying to the impression that it has given him no return for the money invested. In this way we can make steady progress without so many setbacks. We should bear in mind that lime does not always increase the yield the first year and that an indiscriminate and unintelligent use of lime is liable to be provocative of more harm than good.

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The Lawrence Publishing Co.,
Detroit, Mich.

DETROIT, MACH 30, 1912.

CURRENT COMMENT.

According to figures recently made public by the Bureau of Statistics of the United States

Department of Commerce and Labor, the total amount of sugar consumed in continental United States in the last fiscal year was 7,670,000,000 lbs., or an average of 81.78 lbs. per capita. This is a new high record, the previous record of sugar consumption being for the fiscal year of 1907, when the estimated average consumption was 81.19 lbs. There has been a steady increase in the consumption of sugar in this country, the average consumption having more than doubled in forty years. In 1871 the total consumption was 1,500,000,000 lbs., or 36½ lbs. per capita, while thirty years ago it was 43 lbs. per capita, twenty years ago 61 lbs. per capita and ten years ago 72 lbs. per capita.

Of the immense total of sugar consumed in this country about one-quarter is of domestic production, while another quarter is imported from non-contiguous territories of the United States, and the remainder, or one-half the total consumed, from foreign countries, mainly from Cuba and neighboring islands, with the Dutch East Indies next in importance as a source of supply. Of the total of approximately 1,805,000,000 lbs. of sugar produced in continental United States in 1911, the latest and best available estimates divide the production as follows: Beet sugar, 1,105,000,000 lbs. and cane sugar 700,000,000 lbs., the production of beet sugar thus exceeding that of cane sugar by more than 50 per cent. This showing in the beet sugar industry is remarkable when it is considered that prior to 1907 the production of beet sugar was never as great as that of cane sugar while ten years ago, in 1901, the quantity of beet sugar produced was less than one-third of the amount of cane sugar produced in this country.

It will thus be seen that while Michigan has been rapidly getting into first place as a producer of beet sugar in this country, the beet sugar industry has grown apace throughout the country, while the sugar which is admitted free of duty from non-contiguous territories has increased rapidly, especially that from the Philippine Islands since the enactment of the present tariff law which permits the importation of a considerable amount of

sugar from the Philippines free of duty. This great growth of the beet sugar industry promises to make our country practically independent of all importations of sugar from foreign countries in future years, provided this industry continues to be fostered under a tariff law which will compensate for the difference between the cost of production at home and abroad.

This difference is greater than would be estimated by many people who are not familiar with the labor conditions in the West Indies, from which the bulk of our imports of sugar are derived. In some of these islands, the negro laborers, including their families—and here the women work in the fields with the men—receive not more than \$125 per year in American money; this amount not including board or house rent, or any such items. Under these conditions it is obvious that the removal of the tariff on sugar would be a severe blow to this great and growing industry, which would be at once checked in farther development if not ultimately wiped out, with the result that the United States would send an increasing rather than a decreasing amount of money abroad for the purchase of this necessity, which could just as well be produced here upon American soil and with American labor. The development of this industry has meant many millions of dollars to Michigan farmers and laboring men within the last decade and will mean more to them in future years, if its progress is not destroyed by unwise legislation at this time.

True, the cost of sugar to the ultimate consumer might be reduced, at least temporarily, by the removal of the tariff, but there would be also created a deficiency of something like \$50,000,000, which it is estimated the sugar tariff brought into the treasury during the last calendar year, and of necessity this deficiency would have to be made up by some other form of taxation, which would ultimately fall upon the consumer, so that in the end no good purpose would be served, but a great damage done to an important industry in Michigan and an economic wrong to the country through the turning of a large item in the balance of trade against us and removing an important check upon the possibility of manipulation to establish periodical corners in the sugar market, an example of which was recently experienced through the shortage in the Cuban crop at a time when the available supply was largely within trust control.

Thus we believe that any present readjustment of the sugar tariff should be made on the basis of the difference in cost of production in this country and the countries from which our foreign supply is derived, and that the placing of sugar on the free list as contemplated in the bill which recently passed the lower house of congress would not be warranted under the principle of the greatest good to the greatest number of our people.

Township Highway Problems.

Interest in the highway proposition has recently been centered in the vote which will be taken upon the county road system in some twelve Michigan counties at the spring election, and in the proposition of issuing bonds for the construction of highways under the county system in other counties.

There are, however, more important phases of the highway problem which should receive the attention of the average voter on township meeting day. On that day the electors of the township will appropriate money for highway improvement and maintenance within the township and will also elect highway officers to administer the funds so provided. As previously noted, in some townships where the present system is not giving general satisfaction, a return will be made to the road district system, and here the various overseers of the highway for these several districts will be elected. Here, also, at the business meeting which is held after the noon recess at the township election the interested voters of the township can direct a general policy of road improvement within the township.

Experience has shown that no money expended in road improvement, provided the work be done at the proper time, is so effectively applied as that used in the smoothing down of roads in the spring with the split-log drag, or some of its near relatives which are now manufactured and on the market in a ready-to-use form. No step could be taken which would go farther toward the improvement of the average roads within any township than the judicious use of a split-log

drag, or similar implement, upon all those roads at just the proper time this spring. With the season as late as it is, and with the township meeting occurring on the first day of the month, action taken toward this end will be most timely and the work could be done at the season when it would be most effective, during the early days of April.

Obviously, it is the duty of every taxpayer to be present at the business meeting held in connection with the township election. The monies appropriated for highway maintenance and improvement should be adequate to the needs of the township, the officers elected should be of the kind best fitted for the work and the matter of the policy of the township in the work of highway maintenance and improvement may very properly be taken up by the electors at this time.

The above suggestion, could it be generally carried out throughout the state, would do more toward the betterment of common roads than any other one thing that could be done. This sort of work is not an experiment, and all that is required is a little missionary educational work by interested taxpayers to bring about the general improvement of the highways in the early spring, which will mean their betterment throughout all seasons. We are hopeful that a somewhat general interest may be taken in this plan for township highway improvement throughout the state.

Foreign Labor for Michigan Farms.

Reference has been previously made in these columns to a plan publicly advanced by Hon. A. C. Carton, State Immigration Commissioner, for the systematic direction of immigrants from Northern Europe to Michigan, where their services might be desired as farm laborers. A similar plan having been under consideration by Hon. George B. Horton, in charge of the co-operative department of the State Grange, a working plan was perfected through conferences between these two gentlemen by which the practical details of this work would be undertaken under the auspices of the State Grange, with Mr. Horton as agent in charge of the work.

We are in receipt of the full details of the plan, together with the literature and application blanks sent out by Mr. Horton for the benefit of those who may desire to secure laborers or servants for the home through this medium. As a means of covering the expense incident to the conduct of the work, a fee of \$1.00 for each helper for whom application is made, is charged, which goes into the Grange treasury to defray these incidental expenses, the service being available to all farmers, whether members of the Grange or not. Space will not permit a full elaboration of the plan in this issue but enough has been published regarding it in previous issues so that the reader should be fairly familiar with its details. Full information can be secured by addressing George B. Horton, agent in charge, Fruit Ridge, Mich.

Upon receipt of the information and blanks, application is made direct to Mr. Horton who forwards the same to the inspector in charge at the information branch of the immigration service at New York, who makes a selection from among the immigrants in accordance with the requirements of applicants. In addition to the small fee quoted above, applicants are required to advance the railway fare from New York, but this and all other conditions are fully elucidated in the literature sent out by the agent in charge, as above noted.

Wool Twine.

Several inquiries have recently been received regarding the action of the Boston Wool Trade Association, requiring wool to be tied with a small glazed twine instead of ordinary wool twine in order to avoid a dockage in price when same is sold. This matter was taken up by the Boston Wool Trade Association at its meeting held November 21, 1911, at which meeting the following resolution was adopted by the Association.

Whereas, it is the desire of this association to increase the value and popularity of all American grown wool with the manufacturers and to encourage not only the raising of better wool but to improve the manner in which it is prepared for market, and

Whereas, the wool grown east of the Mississippi River and also in the states of Minnesota, Iowa and Missouri comes in more direct competition with foreign wool than that of other states, and

Whereas, it is necessary to notify growers and store-keepers as early as possible regarding changes from present methods, and

Whereas, it is deemed advisable to establish a standard whereby all parties in-

terested may be on an equal basis; it is therefore

Resolved, that fleeces grown east of the Mississippi River and also in the states of Minnesota, Iowa and Missouri shall not be considered merchantable unless rolled into a firm bundle, flesh side out, free from tags or parts of other fleeces, tied with a hard glazed twine not heavier or larger than what is known in the twine trade as size 4½—3 ply India, using not more than three single strings each way of the fleece and all knots firmly tied. Wool put up otherwise than in this manner shall be considered unmerchantable and shall be subject to a discount of at least one cent per pound.

It is probable that this association of Boston wool dealers will be able to enforce their ruling in regard to the kind of twine used in tying fleece wools. It would not appear, however, that there is any real reason why wool dealers should not readily accede to this demand. Some years ago sisal twine was, as a matter of convenience, somewhat generally used by wool growers for one or two seasons for the tying of fleece wools. The hard vegetable fiber from which the sisal twine is made could not be entirely separated from the wool in the process of manufacture and was ultimately woven into the cloth, making fine grades of cloth practically useless when so damaged. An interesting exhibit at the International of 1910, was that of the Ohio State University, which included a sample of cloth showing just how the sisal fibers worked into the cloth and ruined its texture.

Wool growers readily acceded to the demand of the wool trade that fleece wools be tied with a soft twine, but in recent years manufacturers of the twine have been putting out a wool twine which has not proven satisfactory or of the quality which was formerly used. It is so loose and rough in formation that many of the fibers cling to the wool, causing defects in the goods. Another reason why it is objectionable to the trade is because it is necessarily heavy in weight.

This led to the action above quoted, demanding the use of a hard glazed twine. While a particular grade of twine is indicated in the above resolution, any hard glazed twine not exceeding one-eighth inch in diameter would conform to this demand of the wool traders, this grade being specified because it is a standard article of trade, which is, in the judgment of the traders, best suited to the requirements of a twine for tying fleece wools.

HAPPENINGS OF THE WEEK.

National.

The case brought by the federal government against the ten Chicago packers has gone to the jury. The trial has been on for over three months.

The possibility of an early agreement between the bituminous coal miners and the operators, is fast fading away because of the determined stand taken by both parties. The representatives of the miners maintain the justice of their demands for a 10 per cent increase in wages and shorter working hours, while the owners shrewdly contend that the business will not permit any change from the agreement now in force. It is reported that the miners will not agree to the interference of President Taft in the controversy.

While landing from a ferry in the railroad yards at Vicksburg, Miss., the Detroit Tigers of the American base ball league, suffered a severe shaking up, some of the players being bruised considerably although no permanent injury is believed to have resulted.

The posess out to capture the Virginia outlaws have not been favored with a great deal of success; however, they believe the outlaws are now surrounded and will ultimately be starved out.

Flood warnings have been issued by the weather bureau to municipalities along the Missouri, Ohio and Mississippi rivers. All three of the streams are rapidly rising from the melting of the snows in the central and northern states.

The congressional committee investigating the so-called steel trust expects to complete its work this week. The report will be made by May.

The officials have formerly declared the Lawrence strike at an end. The operatives of the New Bedford district are now dickering with the managers for an advance in wages and better working conditions. The owners do not show evidence of acceding to the demands of the workers and should they be unable to reach an agreement a strike is expected to be called.

The department of justice of the federal government charge that a coal trust is in existence in this country and data is now being gathered in Chicago to be used in prosecuting violators of the Sherman anti-trust law. Suits will be started simultaneously in several cities within two weeks. In Pennsylvania, which produces 65,000,000 tons of anthracite coal annually, 69 per cent is known to be controlled by the trust.

A collision between crowded electric cars on the Indiana & Union Traction Company's lines west of Fortville, Ind., resulted in two fatalities and 30 persons being injured.

The interstate commerce commission has issued an opinion to the effect that a railroad must adjust its rates so that justice will be done to foreign shippers

where state railroad commissioners require that low rates be given resident concerns. Under the decision a road cannot make a substantially higher rate when handling freight consigned to a foreign state than for freight shipped under the same conditions to a point in the state where the freight originated.

The disaster in the Sans Bois Coal Company mine at McCurtain, Oklahoma, claims 70 lives. All but six of the bodies were removed last Saturday.

Eight buildings were burned last Friday morning in Lake City, Mich. The loss is estimated at \$45,000.

Foreign.

A battle between the federal forces of Mexico and the rebels at Corralitos in which nearly 6,000 men were engaged, resulted in a victory for the rebels. The casualties amounted to 500, according to reports, the government forces losing 400. This victory for the rebels came after four days' fighting. The outcome is encouraging to the rebels and has thrown the federal forces into a panic.

Fire in the east end car barns of the Toronto Traction Company resulted in the destruction of 270 cars and a loss of about \$500,000.

Emperor William of Germany and King Victor Emmanuel of Italy, have practically agreed on a renewal of the triple alliance which they desire to extend to the year 1920.

The imperial diet of Japan has dissolved the term of office of the members of the lower house having expired. A general election will be held in May.

The British government has failed thus far to affect a settlement between the miners and coal operators of that country, and the conditions resulting are threatening disaster to all business interests. It has been estimated that the strike is costing the United Kingdom, at the lowest, \$50,000,000 weekly. Coal has advanced to famine prices, at Newcastle the price has reached \$20 per ton and at Dover bunker coal is \$15 per ton.

A Japanese expedition to the South Pole is enroute home after failing to get beyond 74 degrees south.

Russia has concentrated 80 battalions of infantry, 12 regiments of cavalry and 42 batteries of artillery on the Russo-Turkish frontier.

A smallpox epidemic at St. Clair, Mich., has resulted in the Canadian authorities quarantining against traffic across the river at that point.

It is the expectation of the home rule party of the British house of commons that within two years the policy of the party will be enacted into law and be in force.

An organization of fully 700 business men of New York city has been affected for the purpose of eliminating useless methods in business and governmental work. The organization has in mind the striking out of unnecessary words in official documents, etc.

China is suffering from famine and from the depredations of ruffian bands who are pillaging in communities where the inhabitants are unable to defend themselves. The finances of the country has also been put in bad condition by the demands of the rebellion, all of which make it probable that much suffering will ensue before conditions can be improved.

CROP AND MARKET NOTES.

Saginaw Co., March 22.—Saginaw county has been threatened with one of the severest floods of its history. Bridges were threatened in the recent thaw, and some culverts had gone out when the providential cold snap stopped the thaw, and gave the water a chance to move off normally. There is still much snow and ice in the woods, and an enormous volume of water must reach Saginaw Bay before the danger is over. The deep snow has kept wheat and similar crops in good condition. The intense cold has reached and destroyed many potatoes in poor cellars and shallow pits. Hay and other feed high. Butter high, but eggs have dropped to midsummer prices.

Lapeer Co., March 21.—A thaw started on the 17th and continued until the 19th, letting down the snow banks easy. This was very favorable to low lands, which would have been flooded had we had rain or warmer weather which would have melted the snow rapidly. A cold wave came on the morning of the 20th and continues cold today with more snow. There is a chance for heavy flooding yet, although this county has little fear as we are on the water shed of eastern Michigan.

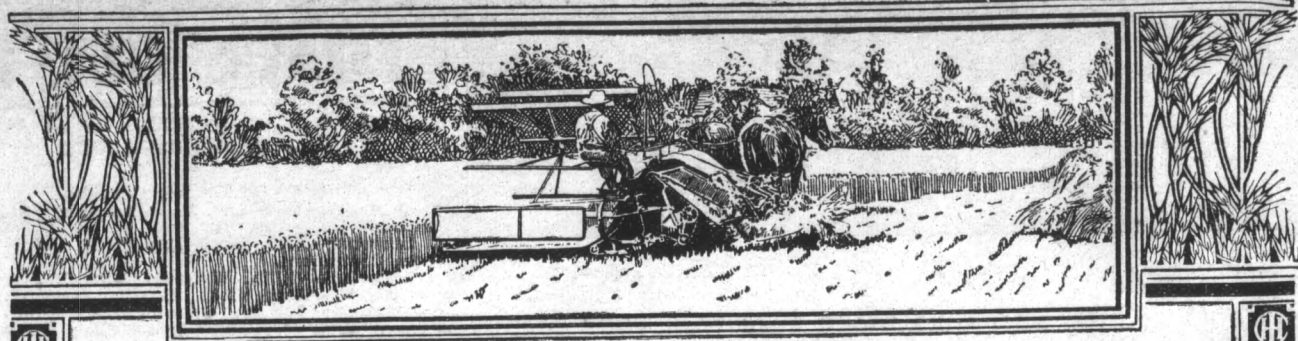
Ohio.

Wayne Co., March 22.—After a few spring-like days we have had a thunder storm, freezing and coating trees and ground with a heavy ice and it is snowing now but is not so cold. Wheat is looking bad. The top is all frozen brown. Late sown wheat fields entirely bare, no wheat showing whatever. No farm work being done yet. Still some corn to be husked. Auction sales are about over. Cows selling considerably cheaper at sales on account of scarcity of feed. Good horses are selling medium high; hogs selling lower than last year. Markets are: No. 1 timothy hay bringing \$20 per ton; wheat, 90c; oats, 50c; corn, 60c; potatoes, \$1; clover seed, \$14; timothy seed, \$6.50; butter, 26c; eggs, 18c.

PRIZE WINNING AGENTS.

Winners of Agents' Cash Prizes offered by the Michigan Farmer:

- | | |
|--------------------|---------------------|
| 1. W. D. Mead. | 13. F. G. Voorheis. |
| 2. H. B. Goodwin. | 14. E. P. Wyckoff. |
| 3. G. J. McQuade. | 15. R. German. |
| 4. Wm. Kimball. | 16. Mrs. McIntyre. |
| 5. W. E. West. | 17. F. B. Miller. |
| 6. E. W. Smith. | 18. H. H. Codnor. |
| 7. S. A. Monroe. | 19. C. D. Filkins. |
| 8. F. F. Rough. | 20. A. O. Hunt. |
| 9. Ed. Swanson. | 21. L. F. Price. |
| 10. L. M. Geismar. | 22. D. A. Harris. |
| 11. Ed. Colling. | 23. N. I. Moore. |
| 12. Carrie Wilson. | 24. F. A. Warner. |



The Wheat Harvest Is Everybody's Business

MORE than a hundred million people await the report from the wheat fields. Everybody is interested. A good harvest means prosperity to all. It means more than prosperity to the man whose work lies in the city or town; to him it means existence. Two-thirds of our people depend absolutely upon the other third for the very bread they eat. Truly, the wheat harvest is everybody's business, a matter of the deepest concern to us all.

Fortunately the farmer's reward for his work in the wheat fields is reasonably sure. Scientific preparation of the soil and seed bed, rotation of crops, selection of seed, and the use of high grade farm machines, have made a good crop almost an assured fact. For work of such importance the best machines that can be made are absolutely necessary. The harvest time is short; every minute is important; delay is intolerable and expensive. The choice of machines to harvest your growing crop is your most important duty. Make your investigation thorough and complete and you will decide that the harvesting machine for you is one of the world-famous I H C line:

Champion
Deering

McCormick
Milwaukee

Osborne
Plano

One of these will meet your harvest conditions better than any other machine made, because they have been developed in just such fields as yours. Improvements have been added year by year until I H C machines are practically perfected. They cut equally well, short, tall, standing, down, or tangled grain. They have been simplified until anyone can handle them safely and efficiently.

Because the harvest time is short and delay expensive, and because accidents to farm machines can never be foreseen, we have been careful to provide a stock of interchangeable repair parts where you can lay your hands on them at once if they should ever be needed. In choosing your harvesting machine do not overlook this most important feature. A day's delay on ac-

count of a broken part may cost you more than the price of a new binder. When you buy an I H C machine you buy it with the assurance that any needed part is no further away than your dealer's place of business.

This service does away with all unnecessary delay in the field and assures you a full harvest garnered in good season. This fact in itself is a strong reason for the purchase of an I H C harvesting or haying machine or tool.

The experience of many farmers for many years points to one of these machines as the one best buy for a man whose profit lies in the successful harvesting of a small grain or hay crop. I H C machines have been tested thoroughly under every harvest field condition, and have made good in every test. You are not asked to make any experiments, the experimenting has all been done. You take no risk, I H C experience has provided against all risks. With an I H C machine you are safeguarded against all harvesting chances except those of the weather, and very largely against them.

Of next importance to the choice of a machine

is the buying of binder twine that will work without waste or trouble in that machine. Here again we have arranged to supply your needs with the best twine that can be made. Take your choice of seven brands—Champion, Deering, McCormick, Milwaukee, Osborne, Plano, or International, all made in four grades—Sisal, Standard, Manila, and Pure Manila.

See the I H C local dealer and discuss with him the machine and twine you should buy. It is his business to help you decide right. You can rely on what he tells you about I H C machines. If for any reason you prefer to have us do so we will send you catalogues. A post card will bring them.



INTERNATIONAL HARVESTER COMPANY OF AMERICA

CHICAGO

(Incorporated)

U S A

IHC Service Bureau

The purpose of this Bureau is to furnish, free of charge to all, the best information obtainable on better farming. If you have any worthy questions concerning soils, crops, land drainage, irrigation, fertilizer, etc., make your inquiries specific and send them to IHC Service Bureau, Harvester Building, Chicago, U.S.A.

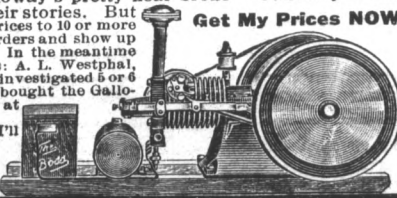
WANTED!

I want 10 men or more in every township to write me quick for a special offer on the sized engine they need. When you get this offer you'll buy. I make it practically irresistible. Then everybody in your neighborhood will know the truth about Galloway—his quality and savings—and all will understand the foolish tales the dealer tells in order to get his big price and personal profit.



10 OR MORE MEN
Write Now to Galloway

You'll soon see the reason for the really funny things that dealers say of Galloway—"Galloway has no factory"—"Galloway's pretty near broke"—Galloway's stuff is poor quality"—those are a few of their stories. But I'm going to call their bluff and make such prices to 10 or more men in every township that will bring the orders and show up the dealers' "jokes" in their true light. In the meantime I'm getting hundreds of letters like this: A. L. Westphal, St. Francis, Minn., writes: Last winter I investigated 6 or 6 different engines on the market, but I bought the Galloway, and I am very well satisfied with it. I have saved at least \$100.00 on it. Write quick for Big Engine Catalog and special prices. I'll also send my fine new General Line Catalog in five colors. WM. GALLOWAY, President
THE WM. GALLOWAY CO 645 A J Galloway Station, WATERLOO, IA.



SPLENDID CROPS

In Saskatchewan (Western Canada)
800 Bushels from 20 Acres



of wheat was the thresher's return from a Lloydminster farm during one season. Many fields in that as well as other districts yielded from 25 to 35 bushels of wheat to the acre. Other grains in proportion.

Large Profits

are thus derived from the FREE HOMESTEAD LANDS of Western Canada.

This excellent showing causes prices to advance. Land values should double in two years' time.

Grain growing, mixed farming, cattle raising and dairying are all profitable. Free Homesteads of 160 acres are to be had in the very best districts; 160-acre pre-emption at \$3.00 per acre within certain areas. Schools and churches in every settlement, climate unexcelled, soil the richest; wood, water and building material plentiful.

For settlers' low railway rates and illustrated pamphlet, "Last Best West" and other information, write to Supt. Immigration, Ottawa, Can., or Can. Gov. Agt.

W. C. McINNES,
176 Jefferson Ave., Detroit, Mich.
C. A. LAURIER, Marquette, Mich.

Make Your Own Drain Tile

THE FARMERS' CEMENT TILE MACHINE

Makes tile 3 to 8 inches in diam., 12 1/4 inches long. One man or boy operates it by hand or power. 500 tile per day by hand, 1,200 by power. Tile thoroughly cured by patent process. No tamping or use of pallets. This machine and tile used by Experiment Stations of Agricultural Colleges and the U. S. Dept. of Agriculture. 5,000 farmers have doubled the yield of land by underdrainage, and saved 75% of cost by using our Machine. You can do the same. Save cost of hauling and breaking. Make perfect tile \$3 to \$5 per thousand. MACHINE SOLD DIRECT FROM FACTORY TO YOU. TEN DAYS' FREE TRIAL. SEND NOW for 36-page Illustrated Catalogue. Tells you about great benefits of underdrainage, how to take levels and get grades, make and lay your tile at low cost.

FARMERS' CEMENT TILE MACHINE CO.,

Box 307, ST. JOHNS, MICH.

Don't Wear a Truss

FREE



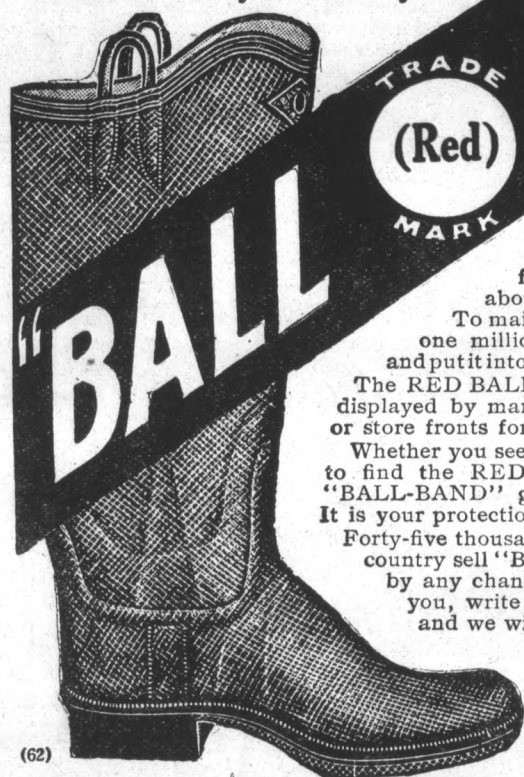
STUART'S PLAS-TR PADS are different from the truss, being medicine applicators made self-adhesive purposely to hold the parts securely in place. No straps, buckles or springs—cannot slip, so cannot chafe or compress against the public bone. The most obstinate cases cured. Thousands have successfully treated themselves at home without hindrance from work. Soft as velvet—easy to apply—inexpensive. Awarded Gold Medal. Process of recovery is natural, so no further use for truss. We prove what we say by sending you Trial of Plaspao absolutely FREE. Write TODAY.

Address—PLASP AO LABORATORIES, Block 72 St. Louis, Mo.

The "Ball-Band" Trade-mark Is Rubber Footwear Insurance

Provide yourself with "BALL-BAND" Rubber Boots NOW, and thus make sure that your feet will be dry and comfortable through all the wettest, coldest weather of the season.

Right now you have time to look for the "BALL-BAND" store, where you get the longest wear and the utmost comfort and satisfaction for your money.



There are now more than eight million wearers of "BALL-BAND." Many of these millions have worn "BALL-BAND" for years. Ask any of these about "BALL-BAND" quality. To maintain this quality we sacrifice one million dollars profit every year, and put it into materials and workmanship. The RED BALL sign—the trade-mark—is displayed by many dealers in their windows or store fronts for your guidance. Whether you see the sign or not, you are sure to find the RED BALL trade-mark on all "BALL-BAND" goods. Insist on seeing it. It is your protection.

Forty-five thousand dealers in all parts of the country sell "BALL-BAND" Footwear. If by any chance your dealer can't supply you, write us, mentioning his name, and we will see that you are fitted.

Mishawaka Woolen Mfg. Co.

Mishawaka, Indiana

"The House That Pays Millions for Quality"

(62)

Is Your Straw Stack Green?

Then Your Threshing Was Not Done by a RED RIVER SPECIAL

All threshing machines are not alike. There is one different from all others. It has a different way of taking grain out of the straw. It beats it out just as you would do by hand with a pitchfork. All other machines depend upon its dropping out.

This one different machine is the RED RIVER SPECIAL and you should insist upon having it do your threshing. It will save all your grain and waste none of your time.

IT SAVES THE FARMER'S THRESH BILL.

It has the Big Cylinder, the "Man Behind the Gun," the patented separating grate and check plate, the greatest separating device ever built.

The Big Cylinder drives the intermingled straw, chaff and grain against the separating grate, beating the grain through where the check plate catches it and delivers it to the grain pan and mill.

Ninety per cent of the grain is taken out right there.

The straw goes over upon the shakers which hold it and BEAT it until all the grain is BEATEN OUT.

In all other kinds the straw is hurried out of the machine and the grain is expected to drop out.

It doesn't. Thousands of green straw stacks every year loudly say it doesn't. The RED RIVER SPECIAL saves all this. Insist upon its doing your work this year. It will save your thresh bill. Write us for the proof.

NICHOLS & SHEPARD COMPANY
BATTLE CREEK, MICH.

Sole Builders of THE RED RIVER SPECIAL LINE
The Red River Special Thresher
OIL-GAS Tractors
Traction Steam Engines
Stackers, Self Feeders and Supplies

To Every Progressive Farmer and Stock-Feeder—get to know

THE IMPERISHABLE SILO

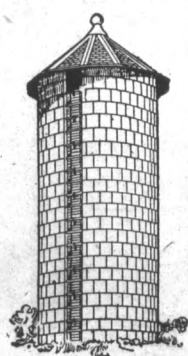
STORM-PROOF—DECAY-PROOF

This silo is guaranteed. Modern principles of economy demand that you feed ensilage and that your silo be imperishable.

The Imperishable Silo is made from Patented Hollow Vitrified Clay Blocks. Moisture-proof, cannot swell, shrink, decay or blow over. Keeps the silage clear up to the wall. None of the old hoop-tightening, painting and repairing. The first cost of The Imperishable is the last. Not one complaint from hundreds of users. Write for descriptive catalog.

NATIONAL FIRE PROOFING COMPANY

Agricultural Department A
Huntington, Indiana



FARMERS' CLUBS

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—J. D. Leland, Corunna.

Vice-President—D. M. Morrison, St. Johns.

Secretary-Treasurer—Mrs. C. P. Johnson, Metamora.

Directors—C. L. Wright, Caro; E. W. Woodruff, Blanchard; C. P. Johnson, Metamora; H. W. Chamberlain, White Lake; Wm. T. Hill, Carson City; Jerry Spaulding, Belding.

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

Associational Motto.—

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

YEARLY PROGRAMS.

Hadley and Elba Farmers' Club.—The latest of the yearly programs to be received is that of the Hadley and Elba Club, of Lapeer county. This is a neat booklet bound in colored paper covers, on which appears the name of the Club. The title page also contains the date of the organization of the Club, which was 1889, and the year for which the program serves. The next page has a schedule of the meetings which, from October to and including April, begin at 10:30 a. m., and from May to September at 1:30 p. m. The meetings are held on the third Thursday of each month. On the succeeding page appears a list of officers of the Club, while the order of the business of the meetings appears on the succeeding page. The balance of the pages are devoted to the programs for the year, one to each month. These programs announce the place of meeting, the manner in which roll call is to be responded to, the subject for discussion and literary features, the music being arranged for by a committee each month. The question box does not appear on the program, but the announcement is made that the question box is always open. The farms of the members are named, and the name of the farm appears in connection with that of the host in each case. The subjects cover a wide range and are of a practical and general character. The special feature meetings include a Children's Day in June, Michigan Day in July, a meeting being held on the Fourth, a union picnic with the other Clubs of Lapeer county in August, a Club fair in October and an oyster dinner in January. The program is a neat booklet and represents one of the most practical forms of printed programs covering the work for the entire fiscal year.

CLUB DISCUSSIONS.

Prosperous Club Season.—The Looking-glass Valley Farmers' Club is still doing things. December saw a corn meeting with Prof. Hoopgarner, of M. A. C., as judge. He also gave a very practical talk along this line. In January occurred Woman's Day. About 140 were present to enjoy the excellent dinner, served in finest style by the gentlemen, and the program furnished by the ladies, with Dean Gilchrist, of M. A. C., as special speaker. Her address on "Literature in the Home," was a help to everyone present. February and March were devoted to cows. Colon C. Lillie and Prof. Raven, of M. A. C., both drew crowds of nearly 200, and left with our members much valuable information and plenty of good cow sense. The silo is now the chief topic under consideration by our members. The subject of alfalfa is being taken up, and promises well. This combination will undoubtedly place our valley in the front rank as a dairy section, and much credit should be given the Club for this and many other improvements. Last year the Club put on a first-class lecture course, which proved a success, and plans are under way for a still better course the coming winter. We have yet to enjoy a sugar social and picnic, when meetings will close until November. The Club would like to exchange yearly programs with other Clubs who use them.—Bel Maier.

Discuss Mortgage Tax Law.—The Wixom Farmers' Club was entertained for its March meeting by Mr. and Mrs. B. A. Holden. Quite a large number gathered and enjoyed the usual good dinner and the social hour. A good program was rendered, consisting of music, recitations and select readings. It was moved and carried to take a penny collection for the purpose of helping to raise a fund to put into the schools of Michigan the following motto: "It always pays to do right. It never pays to do wrong." The following question was then taken up: Resolved, that the new mortgage tax law is not a rational or equitable solution of the mortgage tax problem. Quite a long and animated discussion arose, with a preponderance in favor of the resolution but no decision reached. The topic was laid on the table for future consideration. The April meeting, April 10, will be at K. O. T. M. hall in Wixom.—Mrs. R. D. Stephens, Cor. Sec.

GRANGE

THE APRIL PROGRAMS.

State Lecturer's Suggestions for First Meeting.
Roll call of officers, responded to by favorite quotations.

Five-minute summary of progress of legislation over our state.

Shall we favor or oppose a Central Reserve Bank, as the Aldrich plan would provide? Discussion.

Reading, "Letters to Legislators."

Grand march of Grange, led by Master and Pomona.

How to spray fruit trees: 1. For San Jose scale. 2. For scab. 3. For codling moth. 5. For second brood codling moth.

The funniest thing I know.

Light refreshments, served by Ceres and Flora.

SUCCESSFUL SPRAYING OPERATIONS.

(See topic for first April meeting).

This is a topic of vital importance to everyone who wishes not only to grow fruit for commercial purposes but to supply the home needs as well, and especially the production of tree fruits.

Spraying should be viewed as a preventative measure and not a cure in relation to its use for the control of fungous diseases and in combating one or two insects.

The failure to get the desired results from spraying operations may be due to one of three factors, or to all of them, which in the order of their importance are: First, thoroughness in application; second, the proper time; third, the proper mixture.

After years of experience and observation I am satisfied that a large per cent of the failures to get desired results is due to a lack of thoroughness. In no case is this so vitally true as in the control of the San Jose scale. Every portion of the surface of the bark must be covered to be sure that the spray mixture comes in contact with the scale covering of all the lice, in order to destroy the parasites beneath the scale covering. These lice multiply so rapidly that if a few escape, in a hot, dry, favorable season, a large number may infest the trees by the end of the season.

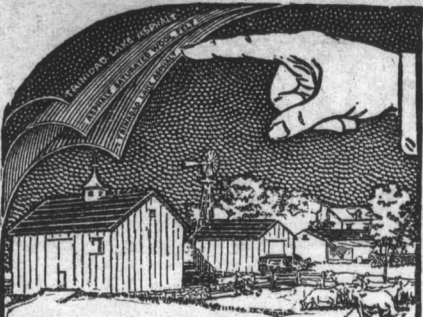
Inasmuch as spraying is largely a preventative measure, the proper time is very important, especially in the control of the codling moth worm of the apple and pear and in controlling fungous diseases. With this fact in view, to obtain the desired results it is very largely a matter of getting there first. Otherwise, even with very thorough work with the proper mixture, you are too late and your labor and material are thrown away. To make this point plain we will take, as a specific case, the control of the fungous diseases, such as scab of the apple and pear and the various forms of leaf blight that attack the cherry, plum and other fruits. Fungous growths of this type are a low order of plant life, destitute of green coloring matter, which live upon the juices of the higher order of plants. Small minute bodies called spores are thrown off which may be termed seed the same as a kernel of wheat or oats. These spores, floating around in the air, come in contact with the leaves or fruit, and, if conditions are favorable, germinate and send their roots down into the tissues, which they destroy, deforming the fruits and making them unsalable.

Now if we get there first and keep the surface of the foliage and fruit covered with the fungicides recommended and used, the spores coming in contact are destroyed and the plant or tree is protected or the disease is prevented from getting a foothold. If we are too late, however, and the roots of the spores of the disease have penetrated into the tissues of the leaf or fruit, the spraying can do no good for that affected part.

In the controlling of insects one must know what type of insect he wants to control before he can intelligently make use of the spray mixtures, since a mixture that kills by contact must be used for all kinds of sucking insects, such as all forms of plant lice, as no poison will have any effect on that type. Biting and chewing insects are destroyed by taking poisonous mixtures into their stomachs.

Do not be afraid of wasting a little material. Soak the trees from top to bottom on all sides. There must be a considerable waste in order to cover every part. Many good spraying outfits of different makes can be had at reasonable prices, and spraying formulas can be had by writing the Agricultural College at East Lansing. Use them. That is what they are for.

T. A. FARRAND.



Ask this question first:

"Will the roofing stay waterproof?"

The surface of any roofing may be made attractive, but to be sure the roofing will last you want to know what it's made of.

Genasco
THE TRINIDAD-LAKE-ASPHALT
Ready Roofing

is made of Nature's everlasting waterproofer—asphalt from the world-famous Trinidad Lake. Its valuable natural oils do not dry out like the so-called asphalts made by man. Natural asphalt gives Genasco life and resistance.

The surface of Genasco is handsome—mineral or smooth; and it is lastingly waterproof through and through.

Comes in rolls. Ready for anybody to lay. Ask your dealer for Genasco. Write us for samples and the Good Roof Guide Book—free.

The Kant-leak Kleet, for smooth-surface roofings, prevents nail-leaks and waterproofs seams without cement.

The Barber Asphalt Paving Company
Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

Philadelphia
New York San Francisco Chicago

Mandy Lee

The Incubator of Certainty

Operated by rule. The novice gets the same excellent results as the experienced operator. The only incubator with the open-front poultry house plan of ventilation. Only one applying the vital principle of low moisture with high temperature and high moisture when heat runs low. All regulated automatically. Send for latest book, describing the new features—plain, practical, helpful. Write us for mating list and prices on S. C. White Leghorn stock and eggs from the Mandy Lee farm. GEO. H. LEE CO., 1212 Harney St., Omaha, Neb.

HURRY UP! To Be Most SUCCESSFUL

Send name on postal for offer of our new Poultry Lessons free to every new customer. Get Gilcrest's big book FREE and also his facts about his SUCCESSFUL Poultry Lessons given to buyers of

Successful INCUBATORS
Best right for biggest profits. Write to Des Moines Incubator Co., 368 Second St., Des Moines, Ia.



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POULTRY AND BEES

A TRIED REMEDY FOR EGG EATING.

The habit of egg eating, when once established in a flock of hens, is very annoying and also expensive. By many it is considered very difficult to get rid of, but I have no trouble in breaking up the habit in short order. The cause of egg eating is usually an insufficient supply of lime or material to make shells, and when one hen develops the habit others soon follow her example.

A positive cure for this annoying habit is to procure from a restaurant or hotel a pail of egg shells, dumping them in the yard where the hens can get them, breaking some of them fine and leaving the others as they are. This one dose will usually cure the egg eaters. If it does not, get more shells and keep a good supply on hand for a while. It is useless to try doping eggs with cayenne pepper or mustard. The above remedy will not fail if the hens are well supplied with shells. Wayne Co. J. P.

(An inquiry from a Livingston county reader prompts the publication of the above contribution from the pen of a practical poultry grower. Although the treatment given differs from that usually recommended there is little doubt that this trouble more often has its inception in wrong feeding than in pure mischief and therefore cannot properly be classed as a habit or vice. Close confinement and enforced idleness, however, in all probability, serve to encourage fowls to continue the practice when they have once begun it, so that along with the feeding of shells, as recommended by this contributor, should be provided a chance to work for their food.—Eds.)

SETTING HENS FOR EARLY HATCHES.

Hatching with hens is the method still resorted to by a great many poultrymen. Although good results are usually secured, we find that better hatches would result if proper attention were given to the selection and preparation of the nests. The nest box must be of proper size and shape. Any old box will not do. It may be of most any material, although wood is preferred. The size of the box should be governed by the size of the hen. A nest 15 or 16 inches square and 15 inches high will do nicely for most any hen. The box must be large enough to allow the hen to turn around easily, yet not so large as to make it hard to keep the eggs together.

When the hens are set early, and the ground is still cold and wet, it is advisable that the box have a good wood bottom. During the summer months, however, the nest will need no bottom but can be set directly upon the ground. The sides, back and top of the nest should be solid. The front should be open except four or five inches at the bottom, which will be sufficient to keep the nesting material in place and to prevent the eggs being rolled out. The top should not be nailed down but so arranged that it can be lifted off easily. This will permit removing the hen from the top and not pulling her out through the opening in front, which often results in some of the eggs being drawn out and broken. It will be necessary to remove the hen from the nest a few times for dusting, and it will be seen that this can be more easily accomplished by removing the top and lifting her from the nest.

Cover the bottom of nest with some heavy paper, preferably tarred paper, since this paper has a tendency to keep down vermin, and this is a consideration in raising chicks. Then fill in a few inches of moist earth. Fill the corners and sides a trifle more than the center and pack it down. On top of this put the nesting material, consisting of soft hay or straw. Pack it down well and shape it so the center will be a trifle lower than the sides, or concave in shape. The diameter of the nest proper should be the same as the length of the hen's body. This will permit her to cover the eggs closely, yet she will be less likely to smash them in turning around. Guard against having the center of nest too deep as this tends to throw the eggs together in the center, with the possibility of some being broken. A too shallow nest is equally bad, since it allows the eggs to roll out from under the hen or to become so spread out that they cannot be properly covered.

Do not give the early sitter too large a number of eggs. You will get a better hatch from the minimum number of eggs properly brooded than you will from a larger number poorly covered. You cannot secure a good hatch of vigorous, livable chicks from eggs that are not properly heated at all times during the hatch. If a hen has difficulty in covering the eggs, chilling is sure to result at some time. The eggs on the outer edge will not get the necessary heat, and as the eggs are shifted about a good deal there is danger of them all becoming chilled. Be on the safe side by giving the hen no more eggs than she can take care of. It sometimes happens that eggs become broken in the nest. When this happens remove the soiled nesting material and replace with clean. Also wash the remaining eggs with warm water.

Sitting hens should be fed principally on heating food, such as corn. This applies to those set during the cold weather of early spring. During the hot months they should have more wheat than corn. Provide a dust bath so they can dust themselves every time they leave the nest. Have this bath consist of moist earth instead of dry dust if it can be secured. If the earth is dry, sprinkle it slightly and stir it up well. The hen will get her feathers slightly damp by wallowing in the moist earth, which will be of benefit in supplying moisture to the eggs.

Do not allow the hen to leave the nest after the eggs are pipped. Close the front of the box so that she will remain upon the eggs. In 24 hours reach in and remove all broken shells. This is necessary, as we find that broken shells often telescope the unhatched eggs and smother chicks not yet out of the shell. After the chicks are all hatched allow them to remain in the nest for 10 or 12 hours. They will be better and stronger if allowed to rest where they can be both warm and quiet.

Indiana.

O. E. HACHMAN.

WHAT TO DO WITH QUEENLESS AND WEAK COLONIES.

After they are safely out of the cellar the bee man is apt to find a few colonies whose bees hang idly about the entrances, right from the start, and act differently from normal colonies. This is a pretty sure indication that they are queenless and they will need watching until some pleasant day when they can be examined. Queenless colonies are in danger of being robbed, for they will not protect their hives as will prosperous colonies. If not provided with a queen they will gradually dwindle away and the wax-worm will take possession of the hive and destroy the combs. When I find a colony queenless I make the entrance so small that it will just allow the bees to get through, thus guarding against robbing. I leave it thus until a pretty cool evening, when I remove the covering from the weakest colony that has a queen and place a queen-excluding honey-board in place of the covering. When all are quiet I carefully set the hive with the queenless colony upon it, leaving off the bottom board. The bees of the queenless colony will readily go to the colony having a queen, and, in my experience, without any quarreling. I have united weak colonies in this way without using the queen excluder and had no trouble.

If I find a colony weak in numbers but strong enough to be worth building up, I put the bees on as many combs as they can profitably use and contract the brood-nest with a division board, making sure that they have plenty of stores. Sometimes I put the colony in the center of the hive, using two division boards, and fill the spaces between the division boards and sides of the hive with chaff. To prevent robbing, so far as possible, I close the entrances to the weakest colonies so that but one bee can pass at a time, and allow not even two inches in length of entrance to the strongest. If robbing has actually started, I close the entrance so that only one bee can pass at a time, leaving it thus until evening. Then, after all is quiet at night, I carry the robber colony to the cellar, leaving it there for a few days until the bees forget the place or are engaged in getting pollen or nectar from the opening flowers, when the colony is returned to its former location.

New Jersey.

F. G. HERMAN.

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Women Who Are Doing Things—No. 7.

Maud Gilchrist.

Many strangers visit the Michigan Agricultural College each year. They stroll about the beautiful campus, enjoying the dark shade of the towering trees and the bright colors of the flower beds. The confusion of mechanical apparatus in the engineering building demands their interested questions. They wonder at the importance of the farmer as they gaze with awe upon the tall columns of the

Woman's College immediately upon her return, and remained there until 1901. In 1907 the University of Michigan awarded her the degree of Master of Arts for graduate work of special elegance in botany.

The course of work for women at the Michigan Agricultural College has always been of a general nature. Dean Gilchrist has endeavored to broaden it even more. She believes that the graduates should

often, her opportunity for helping the farm women of the state is quite large. She is a member of the Association of College Alumnae and tries through her addresses to further their work for a nobler living. She believes that a great many of the farmers' meetings are now devoted too much to the men. The women come to get the dinner and the most of their time is spent in work. Her idea is to have separate meetings for the women where they can discuss their particular problems. In such meetings a better occasion would be had for the accomplishment of good work by the women speakers.

The urgent problem of establishing definite social connections between country women, Dean Gilchrist believes, will soon be solved. The increased number of the social and educational clubs throughout most neighborhoods will bring the women into close contact with each other. It will give them an opportunity to educate themselves through modern study. The decrease of the household drudgery, common to the farm, through modern conveniences and labor-saving devices, will give the housewife more time for social life. She will have the opportunity to get away from home and enjoy the advantages of her friends in the city.

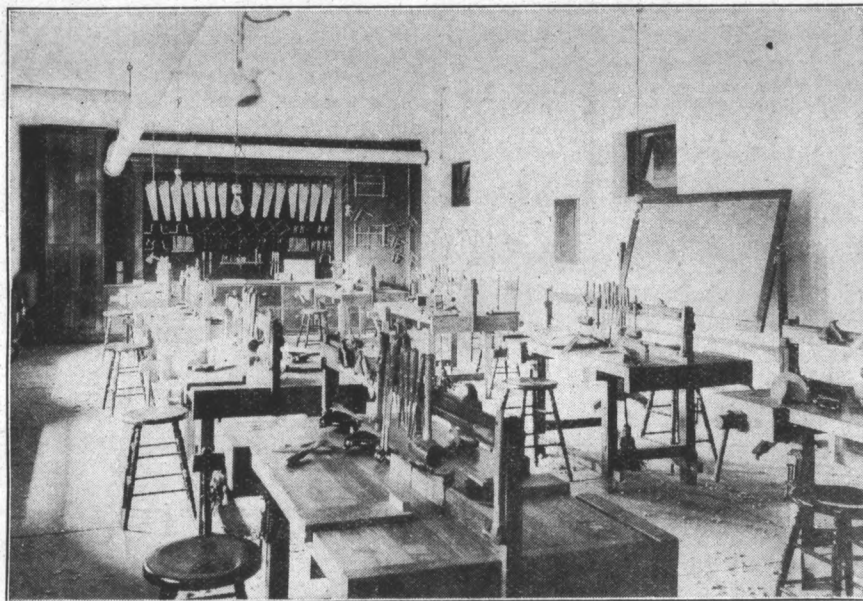
"The successful work of the Y. M. C. A. in the country," said Dean Gilchrist in discussing the life of the farm girl, "will soon be duplicated by the Y. W. C. A. in the banding together of farm girls for their mutual benefit and enjoyment. In the place of corn growing clubs there will be sewing circles and reading clubs which will study books worth while. Perhaps competition in gardening or the care of flower beds, or a baking contest will be used to stimulate interest." She went on to say that these plans had been tried out in Illinois with marked success.

Many women are actively interested in the so-called "forward movement" for women. Some are anxious for woman's suffrage, others spend their energies in fighting the saloon, while many work in the city slums. But Dean Gilchrist is one of the few who, entrusted with molding the characters of young women at a most critical period, not only do this work unusually well, but who are also having a part in all other activities for woman's welfare.

CARBOHYDRATES.—CONTINUED.

BY CORAL R. HAVENS.

Besides cereals, vegetables are generally all classed as carbohydrates, though some of them contain so little of real nutriment that it is hard to do this according to strict definition. But whether they contain much or little that really tends to build up the body they do supply needed bulk to the diet, and it should



Where the Girls Learn Carpentry.

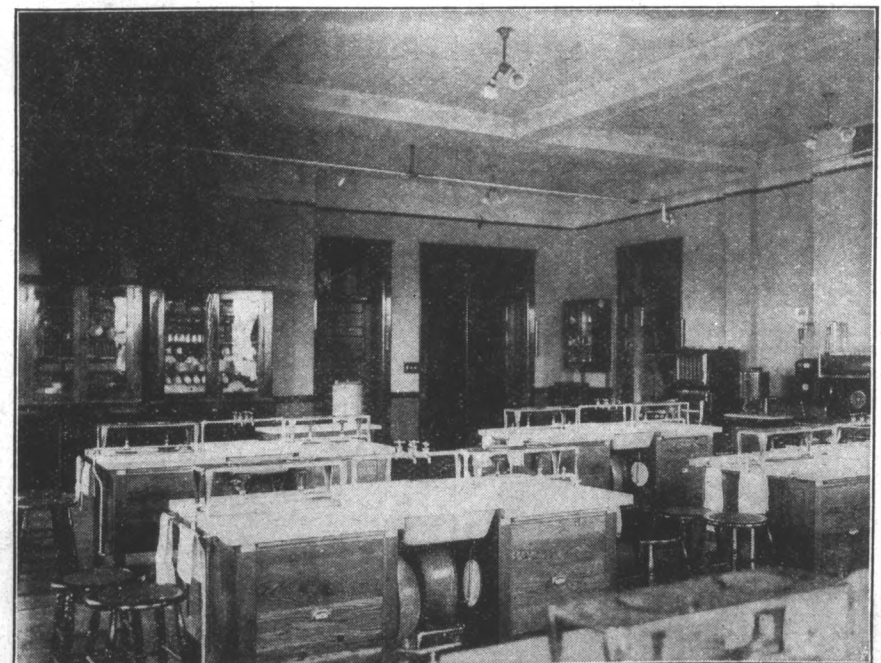
agricultural hall. Shivers run over them as they see the gruesome objects in the museum, but these turn into delighted exclamations as they pass through the dairy, the bacteriology laboratories, the library, and the many other buildings of interest.

Finally they stand before the woman's building, its straight lines and stately air of strength impressing them as nothing has before. Here is the home of 200 girls, a building fitted perfectly from one end to the other. Behind its doors, classes in kitchen bacteriology, home nursing, and household economics are working for the improvement of American womanhood. The results of the study in this building affect the homemaker of the engineer, the farmer, and the lawyer. Its many graduates always work for the higher standard of living and for the bettering of social conditions. The influence of such an institution can hardly be estimated.

As one looks upon this building he cannot but think of the woman to whom the management and welfare of this department has been entrusted. She is an all-round woman. She must possess strong executive ability to cope with the urgent problems of a co-educational institution. Her influence upon the young women in her charge is sure to be of the best. In short, impartiality, justice, exemplary living, kindness, sympathy, all that goes to make up a true woman must be hers.

To this position Maud Gilchrist was called as dean in 1901, from the Illinois Woman's College, where she had been dean from 1897-1901. Her success in building up her department from an enrollment of 120 girls to the present attendance of 260, shows how well adapted to the work she is. So rapid has been the growth that at the beginning of this college year many applicants had to be turned away. The present lack of rooming facilities is sure to be a serious hindrance both to Dean Gilchrist's endeavors and to the growth of her department.

The preparation and education of Dean Gilchrist for her work at the Michigan Agricultural College was exceptionally good. She graduated from the Iowa State Teachers' College in 1887 and went to Wellesley College, where she studied for three years and taught for ten years. During the year 1896-97 she studied at the University of Goettingen. She accepted the position of Dean of the Illinois



Kitchen in the Woman's Building.

not be forgotten that our stomachs require quantity as well as quality.

Even our old stand-by, the potato, contains only about 15 per cent of solid nutriment, the rest of it being water and cellulose. Potatoes contain valuable mineral matter next the skin, which is too often lost in the cooking. Properly baked, in a hot oven, just until thoroughly softened, the potato is at its best, being easily digested and retaining all of its nutriment. Steaming, or gently boiling in their jackets is the next best way of serving this old friend. Fried potatoes are not to be recommended to one who must confine his diet to foods that are easily digested, but they do give an agreeable change if not served too often. Cooking potatoes with milk, as scalloped or creamed, increases their food value greatly and when cheese is added, they can well form the principal dish for luncheon or supper.

Sweet potatoes contain some sugar in addition to the starch. They, too, are best when baked, but can be boiled, mashed, scalloped or glazed as well.

Parsnips contain both starch and sugar, but not in such large quantities as do potatoes. Many people dislike them but with a little trouble they can be made very palatable. Scraping parsnips to prepare them for cooking is disagreeable and unnecessary. Scrub them clean, then cook in boiling water until tender; drain off the water, let them stand in cold water for a moment, and you will be surprised and delighted to see how easily the skins slip off. Then try serving them in a cream sauce. Or, mash fine, season with butter, salt and pepper, shape into small, flat cakes, and brown in hot fat. They form a very good accompaniment for roast beef or salt fish.

The turnip is another vegetable that is not fully appreciated by everyone. It does possess an oil that gives a strong flavor, but most of this will be removed if you take off a thick paring instead of a thin one. Turnips contain no starch and are over 90 per cent water, so cannot be relied upon to supply much nourishment; but they can be used for flavoring soups and stews and to supplement hearty dishes. They can be boiled or steamed, then served in cream sauce (which increases their nutritive value), or mashed and seasoned with butter, salt and pepper. If the turnips are very watery, after draining them lay them in clean cheesecloth and twist to squeeze out all excess of moisture.

Cabbage is another of our common vegetables, and is in much more general use than either of the last two mentioned. It can be served in so many pleasant ways that its popularity is easily understood. Served crisp and cold, cut in thin shreds, and mixed with any kind of salad dressing it is delicious. Some of us find that cabbage is quite apt to cause indigestion but this can often be overcome if cabbage is boiled. Do not, I pray you, at once imagine your house and grounds filled with the odor of boiling cabbage, for this is quite unnecessary, I can assure you. Trim off the outside leaves of the cabbage, then cut it into quarters and remove the heart. Have ready a large kettle two-thirds full of boiling, salted water; place cabbage in it, being sure there is enough water to completely cover the cabbage, leave off the tin cover and cook until tender. Then drain and season with butter, salt and pepper; or chop fine, mix with white sauce, place in a baking dish, cover with buttered crumbs, and bake until crumbs are brown. If you have never tried cabbage cooked in this way, I am sure there is a pleasant surprise in store for you.

Carrots contain no starch but quite a bit of sugar, but are also commonly despised in this country, their use being frequently limited to soups and stews. Their common use is said to be a great help when trying to secure a good complexion. They are good boiled and served with a simple dressing of melted butter, salt and pepper, or cut into shreds or round slices and creamed.

Beets also contain sugar, and when young and tender provide agreeable variety for the table. After boiling they can be pickled, used in salads or served alone. Remember when preparing them for boiling not to pierce the skin and leave about two inches of the tops on or the red juice will escape, leaving a very unattractive looking vegetable.

Beans of all sorts contain large quantities of starch and also protein, and may, once in a while, take the place of meat. Vegetarians use them very freely in this way. There are many varieties of beans that are suitable for table use but remember, they do contain a large amount

of nourishment and do not require other starchy vegetables to be served with them.

Similar in composition to beans are peas, which, when young and tender, contain sugar in addition to the starch. These should be cooked in as little water as possible to prevent their burning, in order that their delicate flavor may not be lost. Dry, ripe peas require long, slow cooking to make them fit for use, but are very nourishing when made into soups.

The value of onions both as food and medicine is too well known to need emphasis here; to the majority of people they are a welcome addition to the diet, served raw, boiled, fried or roasted.

Spinach, valuable for its iron, should be more freely used than it is. If it is young and tender, cook it gently in its own juice that none of the valuable mineral be lost, then season with butter, salt and pepper, and garnish with slices of hard-boiled eggs. Some cooks add just a suspicion of grated nutmeg to the above, and sometimes, for the sake of variety, mix the spinach with white sauce and serve on slices of crisp, buttered toast.

Lettuce, radishes and celery are valuable as relishes, to stimulate a jaded appetite, and they can be served with little trouble. Be sure they are thoroughly clean, then chill to make them crisp. Radishes and celery are best served simply with salt, and, to my mind, lettuce dressed with vinegar, salt and pepper, is better than served with heavy salad dressing.

HUMAN WELFARE QUERIES.

Editor Household Department:—Why can't I say, "He has just went?"—School Boy.

Because "went" is the past form of the verb and can not be used with has, had, have, etc., to form the perfect tenses. You say "I go," "I went," and "I have gone," or, "he has just gone."

Editor Household Department:—I tried a Welsh rarebit after the recipe in this column, but the cheese did not melt into a creamy mass. It was sticky and stringy and we could do nothing with it. What was the matter?—Miss Sixteen.

The cheese was undoubtedly too old. You want fresh cheese for a rarebit. Old dry cheese acts as you have described.

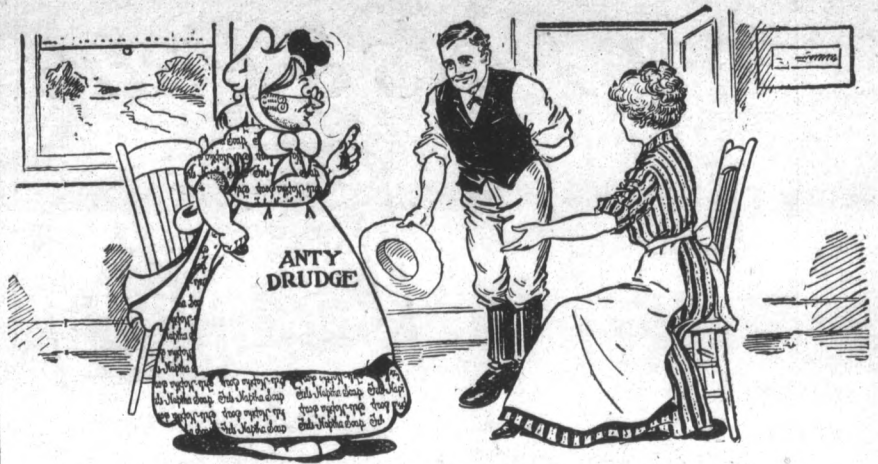
Editor Household Department:—Do you consider this a well balanced meal? Salt pork fried, with milk gravy, mashed potatoes, boiled rice, fritters with maple syrup and cream tapioca?—Want-to-Know.

I should say the carbohydrates or starch and sugars, and fats, were too heavy for the proteids. Salt meat is lacking in nourishment, and salt pork is usually mostly fat so you have little protein there. The only other protein would be the milk in the gravy and the milk and eggs in the cream tapioca. I would suggest that, if you can get fresh meat, you substitute some vegetable for rice which is so largely starch, and instead of the fritters and syrup serve beans, which are largely protein.

Editor Household Department:—My four-year-old girl frets and whines continually. She seems well, that is, she isn't sick enough to stay in bed, but she doesn't eat well, just nibbles at things. Her father thinks it is just temper and says I ought to whip her. What do you think?—Worried Mother.

It is an axiom with child specialists that the well child is a happy one, so I would incline to the belief that your little girl is not well. If she was perfectly normal she would have no reason to fret. I would feed her nothing but the very simplest foods, milk, eggs, rice, farina, oranges, bacon, and, of course, good bread and butter. Cut out candy, nuts, sausage, salt meats, puddings, cakes, pie and everything of the sort. Keep her out doors all you possible can and try to divert her mind. If she does not show improvement in three or four weeks take her to a good doctor for a thorough examination. Often some little thing will upset a child nervously and physically, a hard cold may leave a little catarrh, or there may be enlarged glands or some other thing which requires treatment. While I would not go so far as your husband and whip her for fretting I should not let her whine constantly. A four-year-old child is old enough to be taught she need not make everyone else unhappy by whining just because she feels bad herself.

Editor Household Department:—In the Michigan Farmer of February 17, there was a request for a recipe for graham crackers. Here is mine: Two cups of sugar, (scant), one cup shortening, half butter and half lard, one cup sweet milk, one teaspoon of soda. Mix thick with graham flour. Roll thin. Cut in squares. —Mrs. A. E., Ball Mountain.



A husband thanks Anty Drudge

Mrs. H.—"John, allow me to introduce you to Anty Drudge. She came out from the city to tell us women about that wonderful Fels-Naptha Soap we saw advertised. I am going to use it Monday, and you won't have to get Sally to help me, because I'll be through washing early and can do the work myself."

Farmer Harvester—"Anty Drudge, I want to thank you for myself, as well as for my wife, for making her work easier for her. It makes me so much happier when she doesn't have to work so hard."

Anty Drudge—"That is my aim in life—to help tired women—and with the aid of Fels-Naptha Soap I'm making a success of it."

Use new methods in your work as your husband does in his. Fels-Naptha Soap is the farm woman's labor-saver.

Instead of boiling the wash, you use cool or lukewarm water. Instead of back-breaking rubbing on a washboard or hard labor with a washing machine, Fels-Naptha Soap dissolves the dirt without harm to the clothes. Light rubbing on the washboard or in the machine releases the dirt.

Millions of city women know this, and now we want the country folks to try the Fels-Naptha way of washing.

For full particulars, write Fels-Naptha, Philadelphia

The Quickest Cough Cure— Cheap, But Unequaled

A Whole Pint of it Easily Made at Home and Saves You \$2. Safe, Pleasant and Does the Work Quickly.

For quick and positive results, the pint of cough syrup that you make at home with Pinex and sugar syrup, cannot be equalled. It takes hold instantly and will usually stop the most obstinate deep-seated cough inside of 24 hours. Even croup and whooping-cough yield to it quickly.

Get a 50-cent bottle of Pinex and mix it in a pint bottle with home-made sugar syrup. To make the best sugar syrup, mix a pint of granulated sugar with 1/2 pint of warm water and stir for 2 minutes. This is no trouble, and gives you a full pint—a family supply—of better cough remedy than you could buy ready mixed for \$2.50.

Pinex, used in this way, soothes and heals the inflamed membranes with remarkable rapidity. It stimulates the appetite, is slightly laxative, and tastes good—children like it. Excellent for hoarseness, asthma, bronchitis, and other throat troubles, and has a wonderful record in cases of incipient lung trouble.

Pinex is a special and highly concentrated compound of Norway White Pine extract, rich in guaiacol and other natural healing pine elements.

Pinex has often been imitated, but never successfully, for nothing else will produce the same results. The genuine is guaranteed to give absolute satisfaction, or money refunded. Your druggist has Pinex, or will gladly get it for you. If not, send to The Pinex Co., 232 Main St., Ft. Wayne, Ind.



Why Not Have The Best Light?

STEEL MANTLE BURNERS. Odorless, Smokeless, make the home cheerful and bright. Three times as much light as an ordinary burner. Every One guaranteed. Just what you need! If your dealer doesn't keep them send his name and address with your name and address and we will mail you as many as you wish at 25c each. Agents Wanted everywhere. THE STEEL MANTLE LIGHT CO. 344 Huron Street, Toledo, Ohio.

\$14.68 PER DAY



Dear Sirs: I am pleased to say that through a friend of mine I secured the opportunity of becoming a traveling salesman for the Saginaw Medicine Co.

I find that it is a money-making proposition, as well as pleasant work, for it certainly gives a man a satisfied feeling when he knows that the line of goods he is handling is securing a lot of good, warm friends for him all over his territory.

To a greater or less extent I believe that the line of goods I handle are responsible for the cordial reception I receive wherever I go. The goods give such good satisfaction that the people are glad to see me come again so that they can obtain another supply. All I had to do was to introduce the goods on the first trip and now they sell themselves.

The S. M. CO. PLAN. I find it is the only successful plan to do business and I think it is complete. I also wish to add that the Saginaw Medicine Company has proved to be both honest and reliable.

Very truly yours, J. W. WRIGHT.

(THE MICHIGAN LINE)

Mr. Wright's sales amounted to \$954.10 in his first 65 days on the road, and he attributes some of his success to the fact that he was supplying the people of Michigan with a reliable line of Household Remedies, Stock and Poultry Remedies, Extracts, Spices and Toilet Articles manufactured right here in the State of Michigan. We want our line represented by a hustler in Eaton, Lenawee, Kalamazoo, Barry, Jackson and Branch Counties, Michigan.

If interested, write for terms. Don't miss this opportunity.

THE SAGINAW MEDICINE COMPANY

SAGINAW, MICH.

Mention this paper.

A FEW GOOD POSITIONS OPEN.

We have a few positions open for men who will drive through the country. We will pay a regular weekly salary and expenses. Experience not necessary. The work is healthful and instructive, it will teach you a business. Write, giving references, to Box F, Michigan Farmer, Detroit, Mich.


For Pots & Pans



Cuts the grease and burnt-in food crusts in a jiffy—leaves utensils like new.

Many other uses and full directions on large Sifter-Can 10c

THE FAMOUS
Rayo
Lamp



The Ideal Reading Lamp

Opticians agree that the light from a good oil lamp is easier on the eyes than any other artificial light.

The Rayo Lamp is the best oil lamp made.

It gives a strong, yet soft, white light; and it never flickers. It preserves the eyesight of the young; it helps and quickens that of the old.

You can pay \$5, \$10, or \$20 for other lamps, but you cannot get better light than the low-priced Rayo gives.

Made of solid brass, nickel-plated. Easily lighted, without removing shade or chimney. Easy to clean and rewick.

Dealers everywhere; or write for descriptive circular direct to any agency of the

72 W. Adams St. **Standard Oil Company** Chicago

You Rest while the Gas Engine works the washer



It's a positive shame to drudge over the washing machine when the

GRINNELL GEM
Washing Machine

hitched to a common gasoline engine at idle times would do both washing and wringing perfectly—and without a bit of work from you. Don't grow old and worn out before your time, slaving with old fashioned methods.

You owe it to your health and strength to try this washer or our Lewis Gasoline Washer at once, so write for full information about our

30 DAYS FREE TRIAL

We also make electric power and hand machines.

Grinnell Washing Machine Company, 725 Main Street GRINNELL, IOWA.

A DOZEN CAKES FROM ONE RECIPE.

HOW many women have one cake recipe and yet make a dozen different combinations with it. Here is one tried and tested friend, capable of endless variations.

Sift one cup of sugar with a cup and a half of flour and two rounding teaspoons of baking powder. Break an egg into a cup, fill with cream, or with three table-spoonsful of melted butter and milk and stir into the flour and sugar. Flavor to suit and bake in two layers.

Now for the possibilities. First there is plain boiled icing, a cup of sugar boiled with a fourth cup of water till it threads, and poured on the stiffly beaten white of one egg.

Second, chocolate cake: A cup of sugar and seven table-spoonsful of milk boiled with an ounce of chocolate which has been melted over hot water. Boil this until a soft ball forms when dropped in cold water, then beat until it begins to thicken.

Make a plain cream cake by mixing a cup of sugar thoroughly with two table-spoonsful of cornstarch in the top of the double boiler and adding a pint of boiling water and two yolks well beaten. Cook 20 minutes, then add a table-spoonful of butter and when nearly cold a table-spoonful of flavoring.

A delicious orange cake may be made by adding the grated rind and juice of one orange to your cream filling.

For lemon cake make the filling you place in your pie shells and put this between your cake layers and on top.

For banana cake, arrange thin slices of bananas on the cake when covered with boiled icing, or mash the bananas and cover the layers with the pulp.

If your family is large enough, and hungry enough, to finish the cake at one meal, mash stewed pears or stewed peaches, add a little sugar and spread on the layers.

Then, of course, there are our old friends, jellies and whipped cream to make other variations.

You can convert the cake into a spiced cake by adding spices instead of extracts for flavoring, and if you want a fruit cake add a cup of raisins and half a cup of chopped nuts to this. For a loaf cake like this add a quarter of a cup more flour, as loaf cakes should be stiffer than layer cakes.

A delicious white loaf cake is made from this recipe as follows: Add a quarter cup more flour and bake in a rectangular pan. Then with a sharp knife mark evenly into squares. From the center of each square cut out a tiny square piece to make a hole, fill this with jelly, and put the "cover" back on. Children, especially, like this if you are exact in fitting your "covers" so that they do not suspect the presence of the jelly until they taste it.

FIRST AID.

BY GENEVA M. SEWELL.

It is very convenient for a mother to be able to repair the little lady's dolly, for all mothers know how soon a dolly may be loved into pieces. If a doll's head is filled with plaster of Paris before it is fastened to the body, it will not only prevent the eyes from falling out, as often results from even a moderate bump, but it also makes the head itself less liable to break. Five cents worth of plaster of Paris will last a long time, and is very convenient to have in the house for many purposes. Mix a sufficient amount with water to make a thin paste, that is, a paste that will pour, and fill the head and neck. It will harden in a very short time. Mix only as much as you will need for the one time, for any that is left will harden and cannot be used again. It must be scraped and wiped from the dish before it has a chance to harden. If the doll's eyes open and shut work them back and forth for a few minutes until the plaster is set, and they will not be affected by it.

The jointed bisque dolls which all children so thoroughly enjoy, have a tendency to come apart easily. It is the work of only a few moments to put them together again. The materials necessary are a stout piece of good elastic cord, the stick end of a match and some good glue. If the arms are off, of course the head will be for they are fastened to the body by the same elastic. First pass one end of the elastic through the hole in one arm, put a little glue in the hole and press the match into the hole beside the elastic, holding the end of the elastic to prevent the match pushing it out. The bit of wood must be wedged in tightly,

and well glued. Next, take the long end of the elastic and pass it through the hole in the shoulder and out at the neck. Make a loop in the elastic and push it into the head, catch it over the wire loop which is in the head for that purpose. If you cannot succeed in doing this, put the elastic through a darning needle and push it up through the hair at the top of the head and down again a short distance away, the hair will conceal it. Draw the elastic tight or else the head will not stay in place when turned. Put the elastic through a hole in the other shoulder and through the arm. Now glue the other piece of wood and pull the elastic as tightly as you can and wedge it into the hole. When the glue is dry cut the wedge and the elastic off even and the work is done. If the legs are off, they may be put on just as the arms were. The only trouble is with the head, and that can be readily managed if a little ingenuity is used. Sometimes it is a little easier to take off the hair in order to get the elastic over the loop, and the hair may then be glued in place. If the eyes are down and out they may be made to stay in place with the plaster, though they will not open and shut. If the eyes are gone entirely fill the head as before and paint eyes on the plaster when dry.

The few moments spent by mothers now and then in this repair work is not only an economic investment, but proves to the child that the mother is interested in what she loves.

SHORT CUTS TO HOUSEKEEPING.

A piece of cloth dipped in spirits of wine and rubbed on soiled leather will remove every spot on it.—Mrs. A. L. C.

If the kitchen pump or drain pipe freezes, throw in a handful of salt, pouring in a little hot water if necessary to carry the salt to the frozen place. In an hour or two this will clear the pipe of ice. The "men folks" employ this means of thawing out their pipes at the barn also.—D. L. M.

Celery is sometimes very scarce and a good plan is to save the tops. Cut and wash the nice leaves, tie with a cord, hang up to dry. When dry put them in paper bags and save for seasoning soups, dressings and salads.—Mrs. A. L. C.

MICHIGAN FARMER PATTERNS.

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



No. 5754, Ladies' Waist Closed at Front with Empire Back and Body and Upper Part of Sleeves in One. Six sizes, 32 to 42 inches bust measure. Medium size requires 2 3/4 yards of 36-inch material, 5/8-yard 18-inch all-over; 3/4-yard 24-inch contrasting goods. Price, 10 cents.

No. 5752, Ladies' Princess Combination Corset Cover and Open Drawers. Six sizes, 32 to 42 inches bust. Size 36 requires 3 1/2 yards 36-inch goods, 3/4 yards insertion, 2 3/4 yards narrow edging, 2 3/4 yards wide edging. Price, 10 cents.

No. 5736, Ladies' Shirt Waist with Removable Chemisette and Long or Short Sleeves. Six sizes, 32 to 42 inches bust. Size 36 requires 2 3/4 yards 36-inch goods, 1/2 yard 18-inch all-over, 2 yards braid. Price, 10 cents.

No. 5732, Ladies' Three-Piece Skirt with High or Regulation Waistline and with or without Panel. Five sizes, 32 to 40 inches waist. Size 24 requires, with panel, 3 3/4 yards 36-inch goods or without panel 3 1/4 yards 36-inch goods. Price, 10 cents.

No. 5767, Ladies' Four-Gored Skirt in Tunic Style and Closed at Front. Five sizes, 22 to 30 inches waist. Size 24 measures 2 3/4 yards around lower edge and requires 3 1/4 yards 44-inch material. Price 16 cents.

HOME AND YOUTH

A BIT OF WORLDLY WISDOM.

BY MRS. M. B. RANDOLPH.

Buy cheap, sell dear;
Oh! that's the slogan, sonny.
It will take you, never fear,
Where you can bank your money.

Buy cheap, sell dear;
Never mind the squealing;
Get your wool and closely shear
Both lambs in your dealing.

Buy cheap, sell dear;
Hide in your sleeve your grinning
At the innocents who steer
Straight for the web you're spinning.

Buy cheap, sell dear;
Let not conscience trouble;
Live your life as ended here,
And chase the golden bubble.

AN APRIL FOOL'S JOKE.

BY BELLA G. EMERY.

When I was ten years old my parents lived on a farm. Near them there lived a man who was lazy and never did any work. This man's wife supported the family by taking in sewing. She made an extra good living, but would never let her husband have any money for tobacco. He was so addicted to its use that, in order to get it, he would come over to our place almost every morning and stand around and talk with papa for a little while; then papa would bring him into the house and sometimes would offer him a chew of tobacco. If he did not offer it the man would ask for some.

One morning we saw him coming as usual. As it happened to be the first day of April my sister and I thought we would have some fun. My sister took a piece of tobacco and sprinkled red pepper on the end of it, while I put a lot of salt in the water pail. Mamma, who was baking, said: "Well, girls, I will make a saucer pie and put mustard in it for you to give to Mr. Waite when he comes in."

Just as we had everything fixed, Mr. Waite and papa came into the house. They took chairs in the kitchen and talked for a long time, so long that we began to get nervous and afraid that we would not be able to carry out our plans, so I said: "Mr. Waite, wouldn't you like a chew of tobacco?" He said he wouldn't mind so I brought it to him. He took a

large mouthful but said he guessed someone had spilled pepper on it. Of course, none of us had done anything like that, but could not tell how it had been done. He then took a drink of water, but that was all briny. He didn't know hardly what to say, but mamma told me to empty the water and get a fresh pail. I emptied it into a pail on the table and got some that was fresh.

A few minutes after I had brought the fresh water mamma handed Mr. Waite a piece of pie, saying: "Eat this, Mr. Waite, and get that taste of pepper out of your mouth." He drew his chair up to the table and began to eat it; he ate the crust first and finally said to mamma, "What kind of pie is this?" She replied, "See if you can tell me correctly." So he took a large piece of the clear mustard and put it into his mouth. He certainly made some great faces over that and rushed for a drink of water. The salty water was on the table and closest to him, so he took that without thinking, and this only made things worse than ever. He looked bewildered and did not know what to say. To break the silence I said, "April Fool!" We all laughed, and mamma gave him a piece of good pie and a cup of tea. When he had eaten this he went home, but when he came over after that he never came into the house.

A year from that day we still lived there, and he did also. However, he and his wife were going to move in a few days, so they invited us over to spend the day, it also being Sunday. We all went, but we went expecting to be fooled for using him the way we had the year before. When dinner was served and we went into the dining-room, we were very much surprised to see that for plates we had sauce dishes; for cups, plates; the spoons were in saucers, the tooth-picks in the spoon holder, the sugar in the tooth-pick holder and everything was changed around. The food, however, was of the very best and cooked in the best manner possible.

We were almost afraid to taste the different things, but did so for looks' sake, and were surprised to find everything so nice. When we were nearly through eating, Mr. Waite said: "I know you expected to be April fooled, and I know just how you felt about tasting the things. I am satisfied that I have fooled you, and now that I have returned the joke we will be friends and neighbors just as before."

THE BACHELOR UNCLE

BY EVERITT McNEIL.

Chapter XXIII.—The Fight in the Dark Room.

No train left Utica for Plumville until seven o'clock that night; and it was after nine o'clock when I again drove into Red Murdock's yard. Doctor Anderson came to the door.

"The patient is still sleeping soundly," he replied, in answer to my anxious inquiry. "It is a life sleep, Mr. Delvin; and if it holds for a few hours longer, we have hopes, even great hopes for her ultimate recovery. It might mean death to awaken her now; and so I don't think you had better come in. Looks like a bad storm," and he turned his eyes to the western skies, where great masses of black clouds were piling up and vivid flashes of lightning were already beginning to play across their dark background.

I drove hurriedly homeward anxious to reach the house before the storm broke; but I had hardly gone half the distance when the rain began to fall; it became so dark that it was impossible for me to see the road, and I was compelled to let the horses pick their own way, trusting to their keener eye or instincts to bring me safely home. The rain was soon falling as if shot out of a hose; but I turned up my coat collar, pulled down my hat, humped up my back, and gave no further attention to it. All my thoughts were centered on the terrible end of Red Murdock, and how I could best prevent that dreadful marriage from taking place.

Suddenly, from out of the darkness in front of me, a voice shouted: "Hello! Hello! Stop your horses and come here quick. A man is lying in the road dead or unconscious from some hurt. Come and help lift him out of the way."

"I'll be there in a minute," I called back, as I pulled up my horses and jumped from the buggy.

It was so dark that I could not see ten feet away, and the rain, driven by a vio-

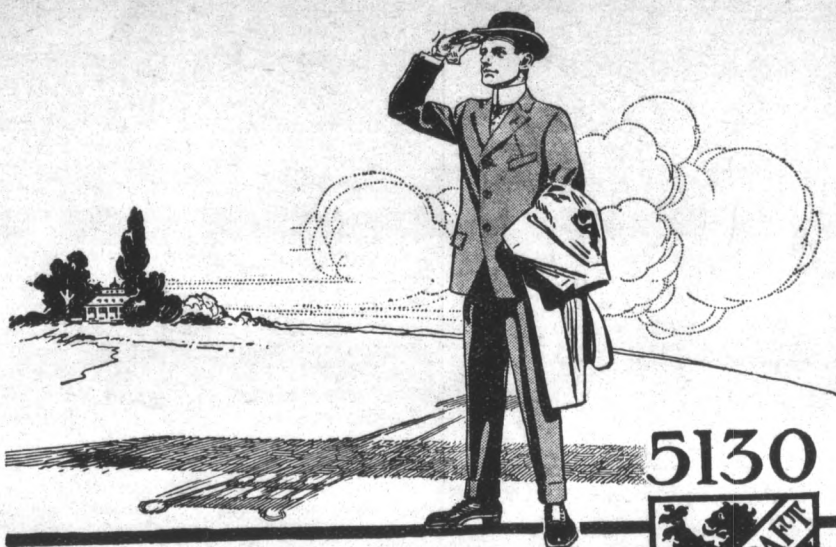
lent wind, fairly pounded the body with its hundreds of fists. Every few minutes a vivid flash of lightning lighted up the scene for an instant, and then left everything in a blacker darkness. As I sprang to the ground an unusually bright flash of light shot across the sky, and, by its momentary glare, I fancied that I saw a number of dark figures gathered in a knot a little in front of the horses, but, in the moment's excitement, I thought nothing of it, and hurried forward.

"Here I come! Where are you?" I sang out.

I passed the horses' heads and again called out.

As I spoke I heard the sound of heavy breathings and the quick moving of feet in the mud of the road; then a bright shaft of light flashed straight into my face, and I saw, dimly, a rush of dark figures toward me; but, before I could lift a hand, before I even realized what was happening, there came a blinding deafening crash of light, and I plunged headlong and unconscious to the ground, felled by clubs in the hands of my assailants.

I first became conscious of the rain beating down on my face. How cool and refreshing it felt! For a minute or more I lay dully wondering what had happened. I had the insane fancy that some one had my brains spread out on an anvil, and was pounding them with a hammer and every now and then turning them over and pounding them again. Then slowly the pounding resolved itself into a dull throbbing pain in my head, aggravated by the joltings of a vehicle in which I was being slowly conveyed over a rough road. I heard the voices of men, and was conscious of some one bending over me. I made a feeble effort to move and discovered that my arms and feet were tightly bound, and that a gag was in my mouth. I wondered why. I felt a hand feeling of the pulse in my wrist. "He is alive all right," I heard the man



The newest idea in clothes-making has been produced by the oldest manufacturers of men's clothes in America.

As a result, \$15 will buy a fashionable ready-to-wear blue serge suit that really will fit and wear and hold its shape and color.

It will compare favorably with most suits at \$20—and it's as good as it looks, for the things you can't see are guaranteed by dealer and maker.

The new idea, in brief, is this:

Centering advertising upon one suit increases the demand for it. Manufacturing larger quantities lowers making-costs. Figuring the savings in advance, we put them into better cloth.

You see the new idea is built upon faith in our own advertising. We had faith because we state nothing but facts. It was justified; and so what last season was only an idea is today a proven success.

CLOTHCRAFT
Blue Serge Special
No. 5130 GUARANTEED ALL-WOOL \$15
AND FAST COLOR

In buying this suit you take nothing on faith. The Clothcraft guarantee absolutely assures all-wool cloth, first-class trimmings and workmanship, permanent shape, satisfactory wear and service.

Go to The Clothcraft Store. Ask to see the Clothcraft Blue Serge Special, No. 5130, at \$15, and the many other styles of Clothcraft Clothes—America's one guaranteed all-wool line at medium prices: \$10 to \$25.

Notice how good they look and feel—how well they fit. And then read the guarantee that's in the pocket of every Clothcraft coat. It indicates the maker's confidence that the clothes will stand every reasonable test.

If your regular clothier doesn't sell Clothcraft, you'll thank us for directing you to one who does. Write us today for the Spring Style-Book, a sample of the 5130 serge, and the address of the nearest Clothcraft Store.

THE JOSEPH & FEISS CO.

Founded 1850—Oldest American
Manufacturers of Men's Clothes
623 ST. CLAIR AVENUE, N. W.

Cleveland
Ohio

Better Farm Implements
and How to Use Them
JOHN DEERE PLOW CO.

You Should Have This New John Deere Book
Illustrates and describes the most complete line of farm implements. Tells how to adjust and use them under varying conditions. It is a practical encyclopedia for the farm. It is worth dollars to you.
Mailed Free to Farmers
If you have not already received your copy of this new book, be sure to ask us for it now.
Get Quality and Service
John Deere Dealers Give Both

JOHN DEERE
MOLINE, ILL.

Davenport Roller Bearing Steel Wagons

Buy Your Wagon Once For All
There is a wagon made that is stronger, more durable and of lighter draft than any other. This wagon is the strongest known wheel construction. Every spoke is staggered and forged hot into the tire. Regardless as to whether the spoke is at the top, side or bottom of the wheel, it always carries its share of the load.

Built Like a Bridge
Entirely of steel I-Beams, Channels and Angles, solidly held together with large steel rivets, put in hot under great pressure. Like the steel railway bridge, it is constructed for hardest lifetime service. Strong and durable. Each front gear and each rear gear is practically one solid piece that cannot come loose or apart.

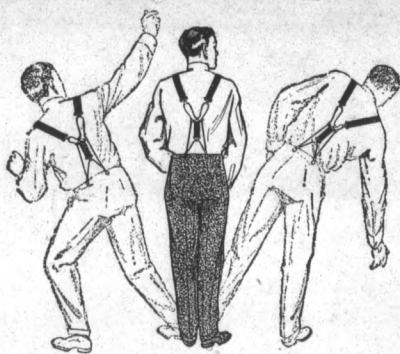
Roller Bearings
That roller bearings reduce draft is generally conceded. Of the various styles, the straight roller bearing is the simplest and most successful. For this wagon the straight roller bearing is especially adapted. The spindles and hubs are straight. Consequently, as this wagon is equipped with straight roller bearings it is of light draft. A little book we'll be pleased to send free, tells of a good many more superior features this wagon has.

Steel Wheels
This wagon has steel wheels that are trussed and made with a tension.

The Roller Bearing

Be sure to tell us whether you want your copy of "Better Farm Implements and How to Use Them" and in order to get the "Wagon Book" containing full information regarding the above described wagon, ask for Package No. B5

JOHN DEERE PLOW COMPANY, MOLINE, ILLINOIS



Three positions. You take hundreds of others every day.

Either your suspenders adjust to your body, or your shoulders take the tug-tug-tug.

The Shirley President sliding cord does away with the tug. When your shoulder goes up the back cord gives to it. No pull. No strain.

By removing the strain from the shoulders, Shirley Presidents make any kind of farm work less fatiguing.

Less strain means longer wear. A pair of Shirley Presidents will outwear two pairs of ordinary suspenders.

SHIRLEY PRESIDENT SUSPENDERS

Light, medium and extra heavy weights. Extra lengths for tall men. Signed guarantee on every pair. Price 50c. From your dealer or by mail.

The C. A. Edgerton Mfg. Co.
5 Main St. Shirley, Mass.

Alcock's PLASTERS



Rheumatism in Shoulder can be relieved and cured by them. Also invaluable for Pains, Stiffness or Soreness of joints or muscles.

Apply Wherever There Is Pain.

Constipation, Biliousness, Indigestion, etc.
Brandreth's Pills
Entirely Vegetable.

Don't Wear a Truss!



Brooks' Appliance, the modern scientific invention, the wonderful new discovery that cures rupture, will be sent on trial. No obnoxious springs or pads. Has automatic Air Cushions. Binds and draws the broken parts together as you would a broken limb. No salves. No lies. Durable, cheap. Pat. Sept. 10, 1901. Sent on trial to prove it. Catalog and measure blanks mailed free. Send name and address today. C. E. BROOKS, 152 B. State Street, Marshall, Mich.

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bending over me say. "But I fancy he won't give us any trouble for a quarter of an hour yet."

I wondered who was alive all right? Who would give no trouble? And then with the suddenness and almost with the paralyzing force of an electric shock, I understood clearly all that had happened. I had been waylaid and was to be held in some safe place until after Harry Rodney and Elsie Lamont had been made man and wife! Somehow Rodney must have become aware of the purpose of my trip to Utica; and, not knowing how much Red Murdock had revealed, but dreading the worst, he had desperately determined to take no chances, and to make it impossible for me to interfere with the wedding by forcibly keeping me a prisoner until after the ceremony had taken place.

For a couple of minutes I lay absolutely powerless, stunned by the suddenness and the completeness of the disaster, which meant the triumph of Harry Rodney, the sacrifice of Elsie Lamont—

No—a thousand times no! That marriage must never take place! The blood gave a great jump through my veins, and I struggled with all my strength to burst the strong ropes with which I was bound.

My captors flashed the light of the dark lantern down on me, and silently watched my vain efforts. When I was done one of them bent and carefully examined the ropes. Evidently they intended to guard against any chance of my escape. There was no need to tighten or retie a single knot. All had held firm.

My struggles had completely exhausted me, and had left me almost suffocated by the gag, which prevented my breathing freely. As soon as I had recovered sufficiently to think clearly I realized the uselessness of wasting my strength in vain attempts to break the strong ropes with which I had been so securely tied, and determined to remain quiet, but watchful, ready to grip the first opportunity of escape that was offered.

I soon discovered that I was being driven, as rapidly as the darkness would permit, over a rough road running through a woods. I could hear the wind and the rain beating against the trees, and caught momentary glimpses of the dripping, swaying branches, when the lightning's flash cut like a sword through the darkness. Presently we passed over a rude wooden bridge; I knew it by the hollow rumble of the wheels beneath me. I also learned that a lighter vehicle followed, which I concluded was my own buggy. A few minutes later the wagon stopped, and I was lifted out and carried through thick underbrush and shrubbery into an old deserted log cabin. A vivid flash of lightning, just as we were entering the door, showed for an instant my surroundings; and I knew that I had been taken to Old Ben's cabin, a house in which an old negro had lived many years before, and which had been deserted ever since the old man had been found murdered, lying on the floor, his head crushed by a blow from an axe which lay covered with blood by his side. The cabin was situated a mile from the main road, and in the depth of a large woods, and completely hidden by trees and shrubbery which had grown up around it. My abductors could not have found a safer retreat. On a stormy night like this there was not one chance out of a million of a human being coming near the place. I recalled how I had told Jake that I would not be back until late. He and Mary Jane would think I had been delayed at Utica, and Doctor Anderson would believe me safe at home. There was no likelihood of my being missed and a search begun for me until it would be too late to prevent the wedding. I seemed to have played directly into the hands of Harry Rodney; and never shall I forget the agony of my mind when I thought of my utter helplessness and the hopelessness of my being able to escape in time to stop that accursed marriage.

The men dropped me rudely on the rotten floor of the cabin. As my body struck the floor I felt so sharp a pain in my back that I would have cried out had it not been for the gag in my mouth. I had fallen on the jagged point of a nail that projected up through the floor. A quick roll of my body to one side relieved me of the nail point. A moment later the thought came to me that this nail might be made the instrument of my salvation, if I could only get the rope that bound my hands behind my back in contact with it. For a minute I lay still, carefully calculating the position of the nail in the floor; then I began slowly working my body toward it until I felt

the sharp prick of its point against one of my hands.

There was no light in the room, save that thrown intermittently on me from the dark lantern, and the occasional vivid glare of a flash of lightning. At other times the darkness was so great that I could see but a few inches in front of my face, while the roar of the storm through the trees without, and the screaming and the pounding of the wind against the rotten old logs of the house, effectually deadened the slight noise I made, as I desperately tried to sever the strands of the rope which bound my hands by piercing and tearing them with the sharp point of the nail. It was slow, desperately slow and painful work; but, little by little, almost fiber by fiber, I forced the nail through the strands of the rope; and at last, my hands were free.

So far my captors had given little attention to me, save every ten or fifteen minutes to flash the light of the dark lantern in my direction to see if I still lay where they had left me. They stood together, six of them, near the door of the room, talking in such low tones that I could not hear a word said above the noise made by the storm. They were all large men, clothed in long black coats, with their faces hidden by dark handkerchiefs, and each man had a heavy club. This much the flashes of lightning told me. Evidently they had no fear of my escaping; for not one of them came near me, and they were content with illuminating the spot where I lay with the rays of their dark lantern every now and then.

The moment my hands were free I quickly reached down into my trousers' pocket, and drew out my pocket-knife. In a minute more the blade was open and I had cut the fastenings that held the gag in my mouth. I did not dare to remove the gag, because I feared that its removal would be noticed the next time the rays of the lantern were turned in my direction. This done I placed my hands behind me in the same position they had been in when tied, and waited as patiently as I could for the flash of the dark lantern, which would assure me that for a few minutes I would be left in darkness, before I attempted to cut the ropes which bound my feet. Fortunately I did not have long to wait. In less than five minutes one of the men pulled back the dark shutter, and flashed the light of the lantern slowly up and down my length as I lay stretched out on the floor. He saw nothing to awaken suspicion; and, after keeping the light on me for perhaps two minutes, he closed the shutter and I was again in darkness.

The instant the rays of the light left me I bent forward, and quickly cut the ropes which bound my feet, leaving the severed ropes still around my ankles. My limbs were now free; but the ropes had been drawn so tightly that my feet were numb, and I was compelled to wait until the circulation had been restored. Besides I had not yet definitely settled on my plan of action. There were six men to be accounted for; and I knew that rather than suffer me to escape these men would kill me, hence it behooved me to be extremely careful, if I would yet defeat Harry Rodney. But I was desperate and fully determined to make the attempt to escape no matter at what hazard. The storm still raged violently; and the sound of the wind and the rain pounding on the roof and the sides of the house and the utter darkness of the night, encouraged me to hope that I could steal out of the old house unheard and unseen; and once outside I had little fear of recapture. I decided to wait until after I had again been inspected by the rays of the dark lantern, and then to make the venture at once. If I was discovered—I could fight; and God have mercy on the souls of all who came between me and my freedom.

I lay in absolute darkness. Now and then, during a lull in the storm, I could hear the indistinct conversation of the six men, who stood huddled together near the door. What if they should take it into their heads to give my bonds a closer inspection? Had I not better make the attempt to escape now? To wait longer seemed to court discovery; but, I had already waited so long that the light of the lantern might be flashed on me at any moment. Yet every minute of delay was like a drop of molten lead on my desperate anxiety. I longed for the instant of action to come.

At length, after what seemed an hour of waiting, the light was suddenly flashed full in my face. So tensely were my nerves strung that it was impossible for me to keep from giving a sudden start when the rays struck my face, and the

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movement shook the gag from my mouth. I heard a surprised exclamation from the man holding the lantern, saw the light suddenly start in my direction, and knew that the time for action had come.

At the instant I leaped to my feet a vivid flash of lightning illuminated the room; and in its glare I caught a glimpse of the six men rushing toward me. Then all was blackness.

I cannot recall the details of the desperate fight in that dark room. I know that at the sight of the on-rushing men a fearful rage took possession of me, and I hurled myself straight toward them, striking with all my strength. My fist hit one of the men, and I heard his body crash against the side of the house; and then I was in the midst of a dreadful melee, with men cursing and striking and gripping and straining, with panting breaths all around me. I hit and thrust and pushed and kicked and pulled with all my might. My arms were gripped. I tore them loose. Someone seized me around the legs. I kicked violently, and felt the toe of my boot crush into soft flesh. Once I was down on my knees with two or three men straining on top of me. With a desperate effort I shook them off and struggled to my feet. A great hand gripped me fiercely by the throat. I struck straight out in the direction of the rigid arm, and felt my fist crash into a face. The grip on my throat relaxed. In another moment I was free from the straining, cursing mass of legs and arms and bodies. But the struggle still went on; for, in the darkness, it was impossible for my assailants to tell friends from foe, and they still thought me fighting in their midst. Fortunately, as I thrust forth my hands to feel where I was, they came in contact with the doorway; and I quickly and silently passed out into the rain of that stormy night, and joyously left my enemies still cursing and fighting desperately within the narrow confines of that dark room.

I was familiar with the locality, and the moment I was outside I rushed headlong in the direction of the road, regardless of the darkness. I stumbled over a fallen log and fell violently to the ground. As I jumped to my feet I heard the neigh of a horse a little to my right, and a flash of lightning showed my team tied to a near-by tree. Quickly making my way to them, I unfastened the horses, jumped into the buggy and turned the horses' heads in the direction of home. As I leaped to the seat and caught up the lines there came a sudden lull in the storm. For an instant the roar of the wind was stilled; and above the sound of the steady downpour of the rain I heard the yells and curses and blows of the men who were still fighting like caged tigers in the lonely log cabin, already the scene of one bloody tragedy. Then, so vivid a flash of lightning shot from the sky earthward that the whole heavens were brilliantly illuminated for some two or three seconds, and every tree and bush stood out with startling distinctness against the black background of the night. The instant the light flashed through the air the sounds of the struggle in the cabin ceased, as if the men had stopped, stupefied by the discovery that they were fighting with one another and that their captive had escaped; and then, just as the blackness again dropped, with the suddenness of a wet blanket, over everything, cries of rage and the sound of feet crashing through the brush warned me that they were on my trail.

Fortunately the wind now rushed with greater violence than ever through the straining trees, and it appeared as if the bottom of the clouds had dropped out so great was the deluge of rain that followed the heavy clap of thunder, while the darkness was absolute in its pitchy blackness. Only the loudest noises could be heard above the roar of the storm. It did not seem possible that my assailants could find me in the blackness and noise of that inky night; but, hardly had I driven five rods, when one of the horses reared suddenly and a voice from the front called out loudly: "Here! Here! Quick! I've got him!" and I knew that one of the villains had hold of one of the horses by the bits.

(To be continued).

MARCH.

BY RUTH RAYMOND.

The rampant brooks their banks o'erflow,
Fed by the melting snows;
And clear the northern bugles blow
As thus to fright their foes;
While rapid rivers, in their flight,
Break many a strong-built arch,
And scatter driftwood left and right
This mad, mad month of March.

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BARGAIN No. 4 Original Price as Equipped \$1,525 1910 Buick, Model 19, 5 Passenger touring, 24 h. p. Equipped with top, glass front, 5 lamps, generator, horn, pump, jack and tools. Special price..... \$495	BARGAIN No. 8 Original Price as Equipped \$1,500 1911 Buick, Model 21, 5 Passenger, 28.9 h. p. Equipped with top, curtains, glass front, generator, horn, 5 lamps, pump, jack and tools. Special price..... \$600
BARGAIN No. 9 Original Price as Equipped \$2,750 Model H Cadillac—1907—5 passenger, 24 H. P. touring car equipped with top, wind shield, 5 lamps, generator, speedometer, horn, pump, jack and tools. Overhauled and repainted Brewster green body with red gear. Special price..... \$550	

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MARKETS

DETROIT WHOLESALE MARKETS.

March 27, 1912.
Grains and Seeds.

Wheat.—Little attention is given to crop conditions, other factors creating the interest in the wheat situation. The delay in the opening of navigation on the lakes is causing competition in Europe for Argentine wheat, thus giving the market there a bullish tone which it is likely to keep until supplies from Canada, that are now held in large elevators, can be forwarded. The chief bearish factor at home is the large accumulations of the grain at Chicago. Future shorts have been buying from outside points and forwarding to Chicago in order to evade the necessity of bidding for grain held by large manipulators. In spite of this situation, the market during the week has advanced 1½c over the price of last Thursday. Millers are buying wheat at Minneapolis and farmers are believed to have very little of the grain in their hands. On Tuesday, a full 1c advance was reported at the local market, except for July wheat which went up ¾c. One year ago the price for No. 2 red wheat was 86½c per bu. Quotations are:

	No. 2	No. 1	Red.	White.	May.	July.
Thursday	98¾	96¾	1.00½			.99
Friday	98¾	96¾	1.00½			.99
Saturday	99¾	97¾	1.01½			.99½
Monday	99¾	97¾	1.01½			.99
Tuesday	1.00½	98¾	1.02½			.99¾
Wednesday	1.00½	98¾	1.02½			1.00

Corn.—As for wheat, corn prices have fluctuated, with a general tendency to advance. The general demand, which has been wide and healthy most of the winter season, still continues because of weather conditions and gives a bullish tone to the trade with prices ruling better than a week ago. On the local market there is little corn for sale. The lateness of the spring opening is certain to have an influence upon the trade that will benefit the seller. One year ago the price for No. 3 corn was 47c per bu. Quotations are:

	No. 3	No. 3	Yellow.
Thursday	68¾	70½	
Friday	69¾	71	
Saturday	69¾	71½	
Monday	69¾	71½	
Tuesday	69¾	71½	
Wednesday	70	71¾	

Oats.—Prices have not changed in the past two weeks. Continued cold weather is likely to decrease the amount of seedling to oats. The market is taking note of this and putting the grain on a still firmer basis than it has occupied. On the local market there is very little trading. One year ago standard oats were quoted at 33c per bu. Quotations are:

	Standard.	No. 3	White.
Thursday	57	56½	
Friday	57	56½	
Saturday	57	56½	
Monday	57	56½	
Tuesday	57	56½	
Wednesday	57	56½	

Beans.—Buyers have suddenly become anxious for beans and throughout the state the past week a healthy demand prevailed. This was accompanied by an advance of 2c over the figures of a week ago. Quotations are:

	Cash.	May.
Thursday	2.40	\$2.45
Friday	2.42	2.47
Saturday	2.42	2.47
Monday	2.42	2.47
Tuesday	2.42	2.47
Wednesday	2.42	2.47

Clover Seed.—Prices dropped Monday on all grades. The market is quiet, the demand for seedling after fall crops being about ended. Quotations are:

	Cash.	April.	Alsike.
Thursday	13.35	13.10	13.00
Friday	13.35	13.10	13.00
Saturday	13.35	13.10	13.00
Monday	13.00	12.50	12.75
Tuesday	13.00	12.50	12.75
Wednesday	12.75	12.25	12.75

Rye.—There is no change in the rye situation. No trading is reported at this point and cash No. 2 is nominally quoted at 93c per bu.

Timothy Seed.—A decline of 5c is reported in timothy seed circles. Prime spot is being quoted at \$6.90 per bu. The market is quiet.

Flour, Feed, Potatoes, Etc.

Flour.—Market rules steady with trading dull.

Straight	\$5.25
Patent Michigan	4.85
Ordinary Patent	4.80
Rye	5.20

Feed.—Prices are unchanged. Carlot prices on track are: Bran, \$30 per ton; coarse middlings, \$30; fine middlings, \$30; cracked corn, \$30; coarse corn meal, \$30; corn and oat chop, \$28 per ton.

Hay and Straw.—All kinds of roughs are steady and scarce, and the quotations are: No. 1 timothy, \$22.50@23; No. 2 timothy, \$21.50@22; clover, mixed, \$20.50@22.50; rye straw, \$11.50@12; wheat and oat straw, \$11@11.50 per ton.

Potatoes.—An active demand and moderate offerings have maintained prices. New potatoes from the south are in. Car lots on track are quoted at \$1.05@1.10 per bu; new potatoes, \$3 per bu.

Provisions.—Family pork, \$17.50@18.50; mess pork, \$16.50; clear, backs, \$17@18; picnic hams, 9½c; bacon, 12@14c; pure lard in tierces, 10c; kettle rendered lard, 11c per lb.

Dairy and Poultry Products.

Butter.—The production of butter is still small and the demand and supply caused dealers to advance quotations for both creamery and dairy goods 1c per lb. this last week. The advance is general. Quotations are: Extra creamery, 30c;

first creamery, 29c; dairy, 22c; packing stock, 21c per lb.

Eggs.—While eggs are arriving quite freely, the demand is large and absorbs the supplies as quickly as they arrive without being fully satisfied. It is due to the heavy consumption that current receipts advanced the past week 1½c, they now being quoted at 21½c per doz., cases included.

Poultry.—Supplies are not coming in freely. Demand is good and prices firm at last week's quotations. They are: Spring chickens, 14@15c; No. 2 chickens, 11@12c; hens, 14@15c; No. 2 hens, 11@12c; turkeys, 16@17c; geese, 11@12c; ducks 14c; young ducks, 15c per lb.

Veal.—Veal is steady. Fancy, 9@9½c; choice, 7½@8½c per lb.

Cheese.—All grades of cheese remain steady. Michigan, September, 18½@19c; Michigan, late made, 17½@18c; York state, 19@20c; Limburger, 17@19c; domestic Swiss, 20@23c; brick cream, 20@22c per lb.

Fruits and Vegetables.

Cabbage.—Steady; now selling at 3½@4c per lb.

Onions.—Lower; \$2@2.15 per bu; Spanish, \$2 per small crate.

Apples.—Baldwins are selling at \$3 @3.50; Greenings, \$3.25@3.50; Spies, \$3.50 @4; Ben Davis, \$2@2.50 per barrel.

OTHER MARKETS.

Grand Rapids.

The potato market is strong, with no signs of weakness anywhere. The ruling price throughout the state is \$1, regardless of location and freight rates, which is a peculiar situation. Shippers say that they are moving as much stock as they can get cars for, and the railroads keep promising more cars but they are slow in coming. Buyers are afraid of frozen stock and some of them refuse to touch potatoes in pits for the present. The egg market is weaker and while 19c was paid the country merchants Tuesday, prospects indicate a decline soon, on account of liberal receipts. Dairy butter is 24c. Live poultry is bringing the following prices: Spring chickens, 12½c; geese, 10c; ducks, 14c; turkeys, 18c; guineas, 30c; capons, 18@20c. Dressed hogs are worth 8½@9c. Hay is selling at \$20@24.

Chicago.

Wheat.—No. 2 red, \$1.03@1.04; May, \$1.03½; July, 98¾.
Corn.—No. 3, 68½@69c; May, 72½c; July, 73½c per bu.
Oats.—No. 2 white, 54½@55c; May, 54c; July, 50½c per bu.
Barley.—Malting grades, \$1.18@1.35 per bu; feeding, 75c@81c.

Butter.—Market quiet and firm at a 1c advance for creameries. Dairy goods are steady. Creameries, 27@30c; dairies, 23 @27c.

Eggs.—An active demand is absorbing the liberal supplies and wanting more so that prices were marked up 1½c for the week. Quotations: Firsts, 21c; ordinary firsts, 20c per dozen; at mark, cases included, 19½@20c.

Potatoes.—While receipts of both old and new stock have increased, prices are held steady by a healthy demand with a slight tendency to widen in both directions because of so many grades. Michigan stock is now quoted at \$1.12@1.18 per bu; Wisconsin, \$1.10@1.20.

Beans.—Demand for choice stock is good, with prices advanced for pea beans and steady for red kidney. Quotations are: Pea beans, choice hand-picked, \$2.63 per bu; prime, \$2.50; red kidneys, \$2.40@2.50.

New York.

Butter.—Trade is steady. Creamery special, 32c; extras, 31½c; firsts, 30½@31c; packing stock, current make, 22½@23c per lb.

Eggs.—Market is strong. Quotations are: Fresh gathered extras, 24½@25c; firsts do., 23@24c; seconds do., 22½@23½c; western gathered whites, 24@26c per dozen.

Poultry.—Alive.—Market is dull. Western chickens, 13c; fowls, 14@14½c; turkeys, 15@20c per lb. Dressed.—trade is quiet. Fresh killed fowls, 14@16½c; frozen turkeys, 13@20c per lb.

Boston.

Wool.—The interest in the old clip is practically gone and all eyes are turned toward the producing states where bidding is being made for the new clip. Much has already been secured by the brokers at prices which were fairly satisfactory to growers. There appears to be a tendency because of the bullish feeling in the trade to advance contract prices. Following are the leading domestic quotations for old fleeces: Ohio and Pennsylvania fleeces—Delaine washed, 32c; XX, 28@29c; fine unmerchantable, 23c; ½-blood combing, 26½@27c; ¾-blood combing, 29c; ¼-blood combing, 28@29c; delaine unwashed, 26c; fine unwashed, 21½c. Michigan, Wisconsin and New York fleeces—Fine unwashed, 20½c; delaine unwashed, 24c; ½-blood unwashed, 26c. Kentucky, Indiana and Missouri—¾-blood, 28@29c; ¼-blood, 28@29c.

Elgin.

Butter.—Market firm at 30c per lb., an advance of 1c since the previous week. The output for the week was 775,000 lbs., compared with 800,000 lbs. a week ago.

THE LIVE STOCK MARKETS.

Buffalo.

March 25, 1912.

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

Receipts of stock here today as follows: Cattle, 155 cars; hogs, 81 double decks; sheep and lambs, 85 double decks; calves, 1,400 head.

With 155 loads of cattle on our market here today, and 23,000 reported in Chicago, all cattle weighing 1,200 lbs. and over sold strong at last week's prices;

however, the quality of the cattle today was considerably better than last week, consequently the higher prices. The lower grades of cattle sold about steady. The light butcher cattle sold better today than any time in the last 60 days, and we look for them to stand up in price right along. Anything but the very best milkers and springers sell very badly.

We quote: Best 1,400 to 1,600-lb. steers \$8@8.25; good prime 1,300 to 1,400-lb. do., \$7.75@8; do. 1,200 to 1,300-lb. do., \$6.75@7.25; best 1,100 to 1,200-lb. shipping steers \$6.50@6.75; medium butcher steers, 1,000 to 1,100, \$5.75@6.25; light butcher steers, \$5.50@5.75; best fat cows, \$5.25@5.75; fair to good do., \$4.25@4.50; common to medium do., \$3.50@4; trimmers, \$2.50@2.75; best fat heifers, \$6@6.50; good do., \$5@5.50; fair to good do., \$4.75@5; stock heifers, \$3.50@4; best feeding steers, dehorned \$5@5.25; common feeding steers, \$3.75@4.25; stockers, all grades, \$4@4.25; prime export bulls, \$5.50@6; best butcher bulls \$4.75@5.25; bologna bulls, \$4@4.50; stock bulls, \$3.25@4; best milkers and springers \$4.50@5.50; common to good do., \$2.50@3.50.

The supply of hogs today was some heavier than the past few weeks, and with liberal supply at all western points, buyers were very bearish early and forced prices about a nickel per cwt. below Saturday's average, the opening sales of the yorkers and mixed were at \$7.80 generally, but got stronger and around the noon hour quite a number of hogs sold at \$7.85, but the sort was a little stronger than early, and hogs at \$7.80 looked about as well sold as those at the latter prices. Pigs as to weight and quality sold from \$6.75@7; lights, \$7.25@7.50; roughs, \$6.75@7; stags, \$5@6.

The lamb market was active today; most of the choice lambs selling from \$8.20@8.25. Look for steady to shade higher prices the balance of the week with moderate receipts. The sheep market was active; prices about a quarter higher than last week. Prospects steady.

We quote: Best lambs, \$8.20@8.25; cull to common do., \$6.50@7.25; wethers, \$6@6.25; bucks, \$3.25@4.25; yearlings, \$6.75@7.25; handy ewes, \$5.75@5.90; heavy do., \$5.75@5.85; cull sheep, \$3.50@4.50; veals, choice to extra, \$10@10.50; fair to good do., \$8@9.75; heavy calves, \$4.50@5.50.

Chicago.

March 25, 1912.

Cattle. Hogs. Sheep.
Received today 23,000 55,000 30,000
Same day last year.. 16,875 44,191 21,465
Received last week.. 54,899 130,660 76,599
Same week last year.. 45,844 161,200 64,633

The run of cattle today is rather moderate for Monday, and there is an active general demand at strong prices, with butcher stock and desirable steers selling on an average about 10c higher. Choice beefs are very scarce. Large cattle supplies at this time are not needed, however, as during the latter part of Lent the consumption of beef is always a good deal curtailed. Hogs are having an extremely active demand on local and shipping account, and despite the liberal receipts, prices are largely a little higher than last Saturday, with sales at \$7.20@7.65, the best light hogs going for \$7.60. Pigs are selling at \$5.20@7, with 130-lb. weights worth up to \$7.12½. The hogs marketed last week averaged 217 lbs., compared with 220 lbs. a week earlier, 240 lbs. a year ago and 220 lbs. two years ago. Sheep and yearlings are very scarce and wanted at strong prices, with prospects that they will sell higher before long. Lambs are steady to a dime or more lower, with \$8 the top for prime lots.

Cattle were largely 10@15c lower on Monday a week ago, with a run of 27,240 head, choice beefs and fat butcher stock excepted, but the decline was recovered on Wednesday under receipts of only 16,541 head, and there was a good Thursday market.

The larger share of the beef steers sold during the week at \$6@8, the choicer lots of heavy beefs fetching \$8@8.80 and the commoner lots of light steers going at \$5.35@6.35. Fair to medium steers sold at \$6.40@7.35 and a good class at \$7.40@7.95, with desirable lots of yearlings bringing \$7.25@8. The big snow storm of the middle of the week caused an interruption to the movement of stock trains for a day or two and helped to strengthen prices, which were much higher than a month ago and far in advance of a year ago. The middling class of cattle selling around \$7@7.50 were offered generously as compared with other kinds and were apt to be the slowest sellers, showing the slowest rallies in prices. Buyers of cattle complained that as the cost of beef rises, its consumption decreases and that eggs are being largely substituted for beef, but the great scarcity of strictly prime heavy cattle keeps them firm most of the time. Butchering cows and heifers have had a good outlet at \$3.90@7.25, with not many selling up to \$7, while cutters sold at \$3.35@3.85, canners at \$2.10@3.30 and bulls at \$3.50@6.25. Prices for stockers and feeders were unusually high, showing further advances, with sales of stock steers at \$4.25@6.15 and of feeders at \$5.50@6.60. Calves were in much slower demand than of late and suffered large declines in prices, selling at \$3@8 per 100 lbs., while milkers and springers were very firm, with a fair demand at \$30@68 per head.

Hogs experienced one of the greatest booms in prices on record during the past week, the best fetching \$7.75, the highest quotation seen in six months, and comparing with \$7.05 at the close of the preceding week. There was usually an extremely large demand from both local packers and eastern shippers, and on Monday, despite receipts of over 50,000 hogs, prices averaged less than a nickel lower, shippers taking 17,301 hogs. Later in the week the snow storm resulted in smaller offerings, and lively competition between buyers sent prices up as much as 25c in a single day, amid great excitement. It is generally understood that the big packers are holding the larger part of the heavy accumulations of pro-

visions stored in western warehouses and are counting on higher prices for hog products, as well as on the raw material. While hogs have been marketed heavier than at any previous time since last October, they are still much lighter than a year ago, and it is thought that the upward movement in all grades will encourage owners to put on additional weight from now on. The spread in prices is narrow, and the bulk of the sales are within a range of 15c.

Sheep and lambs have been marketed so sparingly for a week past that buyers found great difficulty in filling their orders, and it was impossible to meet the wants of the high-class lamb and yearling trade. The result was seen in several sharp advances all along the line, especially for prime live muttons, with lambs leading off, as usual, although fat yearlings and sheep also went much higher. As the principal part of the flocks fed in the middle west have already been marketed, buyers had to depend mainly upon Colorado-fed stock. Clipped consignments made up a much larger percentage of the daily receipts and sold around \$1 per 100 lbs. below woolled flocks. The week's advance in sheep and lambs averaged 50c, with woolled lambs selling at \$5.50@8.10, shearing sheep and feeding lambs at \$5.75@6.75, yearlings at \$6.40@7.25, wethers at \$5.40@6.30, ewes at \$3.25@6.25 and bucks at \$3.75@4.75. Shorn lambs sold up to \$7.10.

Horses were marketed regularly last week except when the snow storm interfered with the movement of trains from the farming districts, and there were more than enough ordinary animals and not near enough high-class horses for the demand. There was the usual depression in prices for inferior horses, thin, long-haired animals selling around \$85@125 per head. Wagon horses were salable around \$150@200, and light draft horses sold at \$175@225, while choice to fancy heavy drafters were scarce and firm at \$250@325. Farm mares adapted for work and breeding continued active at steady prices.

LIVE STOCK NOTES.

M. F. Horine, statistician of the Union Stock Yard & Transit Company, of Chicago, has prepared a paper regarding the sheep industry of the country, in which it is shown that there is an enormous increase in the consumption of mutton, as is indicated by an increase of more than 50 per cent in the combined slaughter of sheep and lambs in the six largest markets of the west during the first two months of 1912 as compared with the average slaughter during the corresponding periods of the preceding five years, and an increase of 22½ per cent as compared with the unusually large slaughter of the first two months of 1911. On the other hand, there was an increase of only about two per cent in the number of feeder sheep and lambs sent to the country as compared with the preceding five-year period of 1911. It is also shown that there was a decline of over half a million in the number of feeder sheep and lambs shipped to the country from the same markets during the last half of 1911 as compared with the corresponding period of 1910. Mr. Horine goes on to state that the persistent unloading of a big number of native ewes which went on all the past winter means fewer lambs in the corn belt and smaller receipts at the western markets of native sheep and lambs in the future. The bulk of the feeders sent to feed lots last fall has already gone to the shambles, and those fortunate enough to own fat muttons are assured of substantial profits, so that it is foolish to sacrifice immature stock for fear that recent prices will be followed by declines.

W. S. Robbins, of Decatur county, Indiana, a prominent farmer and stockman, who, with his sons, owns about 300 head of pure-bred Shorthorn cattle, headed by well-known bulls, is convinced that the time has at last arrived when stockmen living within the corn belt should begin breeding and raising beef cattle, as they can no longer depend upon ranchmen to supply them with feeders. Mr. Robbins says the demand for pure-bred cattle and their values show great improvement during the last two years. His land was bought many years ago from the government for the extremely low price of \$1.25 per acre, and it is now worth from \$100 to \$150 an acre.

Considerable surprise has been caused by the recent boom in hog prices, for many stockmen had not been prepared to see such a strong upward movement, although nearly everybody knew that enormous inroads were made in the country's supply through swine plague last autumn, and later through the marketing of young hogs at much earlier dates than usual. It would seem that the recent course of the market would have the result of making the average stock feeder who is so fortunate as to be the owner of healthy hogs see the folly of marketing them before maturity, and it is evident that prime heavy hogs are going to sell high during the next few months. The eastern portions of the country have very few hogs left and are compelled to draw heavily upon the supplies offered on the Chicago market, shipments eastward from that city on a recent Monday numbering 17,301 hogs.

John T. Alexander, widely known as a cattle salesman in the Chicago market, says: "When we consider the small proportion of heavy cattle in the current receipts, there can be no doubt that the spring and summer shortage will be the most pronounced in many years. Severe weather, scarcity of hay and rough feed and the high price of corn have undoubtedly been factors in emptying feed lots prematurely. In the western feeding belt the impending shortage is unquestionable, while in territory east of Chicago, notably Ohio, Pennsylvania and Ontario, the supply is far below the average of the last ten years."

THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

March 28, 1912.

Cattle.

Receipts, 1,176. Market strong at last week's prices on all grades, steady with Wednesday.

We quote: Extra dry-fed steers and heifers, \$6.75@7; steers and heifers, 1,000 to 1,200, \$6@6.75; do. 800 to 1,000, \$5.25@6; do. that are fat, 500 to 700, \$4.50@5.25; choice fat cows, \$5; good do., \$4.25@4.75; common cows, \$3.25@3.75; canners, \$2@3; choice heavy bulls, \$5@5.25; fair to good bolognas, bulls, \$4@4.75; stock bulls, \$3.50@4.25; milkers, large, young, medium age, \$4@5; common milkers, \$2@3.50.

Bishop, B. & H. sold Newton B. Co. 3 cows av 1,163 at \$4.50, 5 steers av 936 at \$6, 6 do av 741 at \$5.50, 2 cows av 1,050 at \$4.25; to Bresnahan 2 heifers av 665 at \$4.50, 1 cow weighing 1,100 at \$4; to Schuer 1 cow weighing 990 at \$3.60, 7 cows and bulls av 1,054 at \$4.50, 4 cows av 890 at \$3.60, 3 do av 793 at \$3.50; to Smith 1 do weighing 970 at \$4, 4 steers av 662 at \$4.50, 1 cow weighing 790 at \$4; to Thompson Bros. 3 do av 1,040 at \$4.60; to Arndt 2 steers av 1,090 at \$7; to Parker, W. & Co. 2 bulls av 1,240 at \$4.75; to Hammond, S. & Co. 3 heifers av 660 at \$5.40, 3 cows av 950 at \$4.60, 1 do weighing 820 at \$3; to Sullivan P. Co. 7 butchers av 863 at \$6, 5 cows and bulls av 908 at \$4.50, 9 butchers av 961 at \$5, 2 do av 710 at \$4.50, 15 steers av 793 at \$6.20, 1 cow weighing 1,100 at \$6; to Applebaum 1 bull weighing 1,000 at \$5.25; to Newton B. Co. 17 steers av 910 at \$5.75, 4 do av 1,135 at \$6.75, 7 do av 880 at \$6, 11 butchers av 881 at \$5, 1 cow weighing 950 at \$3, 1 bull weighing 820 at \$4.50, 31 steers av 935 at \$6.25, 19 do av 774 at \$5.75, 2 heifers av 705 at \$4.50; to Regan 9 butchers av 573 at \$4.25; to Kamman 12 do av 940 at \$5.55, 1 cow weighing 1,140 at \$3.50.

Roe Com. Co. sold Schuer 3 cows av 970 at \$3.50; to Breitenbeck 11 steers av 856 at \$5.90, 9 cows av 1,009 at \$4.50; to Sullivan P. Co. 4 steers av 1,005 at \$6, 3 cows av 1,040 at \$4.25, 4 butchers av 600 at \$4.75; to Hammond, S. & Co. 5 do av 790 at \$5.75, 1 cow weighing 920 at \$5, 2 do av 840 at \$3.40.

Haley & M. sold Schuer 5 steers av 714 at \$5.50; to Regan 5 butchers av 636 at \$4.75; to Nagle P. Co. 22 steers av 1,077 at \$6.75; to Laboe 10 do av 799 at \$5.40; to Kamman B. Co. 10 butchers av 723 at \$5.15, 2 do av 590 at \$5.

Spicer & R. sold Schuman 3 cows av 900 at \$3.75; to Mich. B. Co. 1 bull weighing 1,540 at \$5, 3 heifers av 713 at \$5.50, 4 cows av 1,085 at \$4.50, 8 butchers av 981 at \$5.60; to Smith 3 cows av 1,060 at \$3.75, 1 do weighing 1,070 at \$4; to Gerish 26 steers av 783 at \$6.15.

Weeks sold Sullivan P. Co. 3 butchers av 673 at \$5.25.

Heeney sold same 4 cows av 1,042 at \$5.20, 1 steer weighing 930 at \$6.50.

Allington sold Newton B. Co. 8 butchers av 720 at \$5.

Heeney sold Rattkowsky 1 bull weighing 1,110 at \$4.50, 2 cows av 880 at \$4.

Brewer sold Bresnahan 1 heifer weighing 630 at \$5.50, 1 cow weighing 1,000 at \$4.50.

Sandall sold same 1 cow weighing 810 at \$4.25, 1 canner weighing 810 at \$2.50.

Brewer sold Hammond, S. & Co. 15 steers av 1,033 at \$6.35.

Allington sold same 5 cows av 860 at \$3.25.

Sandall sold Mich. B. Co. 3 steers av 880 at \$5.75, 4 do av 780 at \$6.25.

Roe Com. Co. sold Nagle P. Co. 9 steers av 1,350 at \$7.35, 23 do av 1,180 at \$7.

Veal Calves.

Receipts, 859. Market 50c@1 higher than last week; strong with Wednesday. Best, \$8.75@9.50; others, \$4@7.50; milch cows and springers dull.

Spicer & R. sold Nagle P. Co. 14 av 140 at \$8.75, 1 weighing 170 at \$5, 10 av 153 at \$8.25, 1 weighing 80 at \$6, 2 av 170 at \$6.50, 5 av 140 at \$8.75; to Mich. B. Co. 8 av 140 at \$8.50; to Nagle P. Co. 2 av 170 at \$4.50; to Sullivan P. Co. 16 av 120 at \$5.75; to Hammond, S. & Co. 8 av 125 at \$8.50; to Nagle P. Co. 5 av 125 at \$9, 15 av 140 at \$8; to Mich. B. Co. 12 av 135 at \$9.

Bishop, B. & H. sold Parker, W. & Co. 45 av 130 at \$9, 2 av 105 at \$5; to Applebaum 15 av 140 at \$8.50; to Nagle P. Co. 11 av 140 at \$9, 18 av 137 at \$8.75; to Mich. B. Co. 5 av 125 at \$9, 7 av 120 at \$8.75; to Sullivan P. Co. 1 weighing 150 at \$6, 6 av 125 at \$9, 5 av 125 at \$9; to Nagle P. Co. 14 av 140 at \$9, 2 av 95 at \$6, 9 av 150 at \$8.50, 40 av 125 at \$8.50; to Parker, W. & Co. 14 av 135 at \$9, 2 av 95 at \$6, 15 av 135 at \$8.50.

Haley & M. sold Applebaum 5 av 80 at \$7.50; to Kull 17 av 130 at \$8.25; to Nagle P. Co. 28 av 140 at \$9; to Mich. B. Co. 7 av 125 at \$7; to Sullivan P. Co. 7 av 140 at \$9; to Newton B. Co. 5 av 150 at \$9.

Samuels sold Mich. B. Co. 17 av 135 at \$7.

Heeney sold Newton B. Co. 2 av 120 at \$7.50.

Dancer & K. sold Burnstine 36 av 115 at \$6.50, 4 av 155 at \$7.50.

Sheep and Lambs.

Receipts, 4,971. Market 50@75c higher than last week, quality considered, marked steady at Wednesday's advance. Best lambs, \$8@8.20; fair to good lambs, \$7@7.50; light to common lambs, \$5@6; yearlings, \$6.50@7; fair to good sheep, \$4.75@5.50; culls and common, \$2.50@3.50.

Bishop, B. & H. sold Swift & Co. 400 lambs av 85 at \$8.20; to Newton B. Co. 21 do av 60 at \$7.50, 129 do av 75 at \$7.40, 48 do av 105 at \$7.75, 40 do av 72 at \$7.50; to Bray 40 do av 60 at \$6.75, 24 do av 60 at \$5, 59 do av 70 at \$5, 9 do av 75 at \$3; to Harland 11 lambs av 68 at \$7.50; to Sullivan P. Co. 28 do av 73 at \$7; to Sullivan P. Co. 30 do av 55 at \$5.75; to Hayes 27 do av 48 at \$5.50; to Young 32 do av 55 at \$6, 66 av 57 at \$7; to Fitzpatrick Bros. 28 sheep av 112 at \$5.50, 3 do av 130 at \$3.50, 5 do av 125 at \$5.50, 88 lambs av 85 at \$8; to Thompson Bros. 6 do av 70 at \$6, 27 do av 75 at \$7.50.

Spicer & R. sold Sullivan P. Co. 19 lambs av 47 at \$5.50; to Newton B. Co. 142 do av 80 at \$8, 27 do av 85 at \$8, 15 do av 68 at \$7.25, 53 do av 70 at \$7.25; to Thompson Bros. 12 sheep av 95 at \$3, 2 do av 90 at \$3, 2 do av 70 at \$4.50, 12 lambs av 68 at \$7; to Barlage 7 sheep av 88 at \$3, 14 lambs av 70 at \$7.15, 64 do av 70 at \$7.50; to Bray 75 sheep av 105 at \$4.50; to Sullivan P. Co. 18 sheep and lambs av 80 at \$7.50; to Bray 75 sheep av 110 at \$4.50; to Sullivan P. Co. 1 buck weighing 110 at \$3.50, 2 lambs av 55 at \$6.50.

Heeney sold Bray 32 sheep av 70 at \$3. Bennett & S. sold Hayes 17 mixed av 50 at \$4.25.

Haley & M. sold Kalaher 28 lambs av 80 at \$7.50, 99 do av 75 at \$8, 61 do av 70 at \$7.75, 44 sheep av 105 at \$4.60.

Hogs.

Receipts, 3,720. Market steady with Wednesday; 15@25c higher than last week.

Range of prices: Light to good butchers, \$7.50@7.75; pigs, \$6.75@7; light Yorkers, \$7.40@7.50; stags one-third off.

Spicer & R. sold Parker, W. & Co. 50 av 210 at \$7.80, 215 av 190 at \$7.75, 155 av 185 at \$7.70.

Haley & M. sold same 104 av 220 at \$7.80, 315 av 190 at \$7.75, 140 av 185 at \$7.70.

Roe Com. Co. sold Sullivan P. Co. 340 av 190 at \$7.75, 135 av 175 at \$7.60, 45 av 160 at \$7.40.

Bishop, B. & H. sold same 40 pigs av 110 at \$6.75.

Bishop, B. & H. sold Hammond, S. & Co. 120 av 210 at \$7.80, 1,115 av 190 at \$7.75, 550 av 150 at \$7.55, 155 av 145 at \$7.50, 210 av 170 at \$7.60.

An extensive country shipper of horses to the Chicago market says that smooth, shapely mares weighing from 1,300 to 1,500 pounds are hard to buy from the farmers in the country he travels over. In January he succeeded in buying some that cost him from \$150 to \$200 per head, but they would cost around \$40 per head more now. He says such mule teams as can be purchased now for around \$350 are ordinary in quality, and at \$500 the span they are only good. He adds that all the talk about a big colt crop that is coming to swamp the horse market is nonsense.



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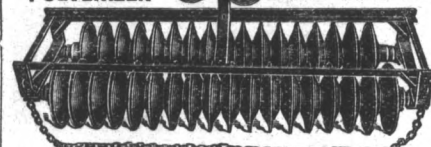
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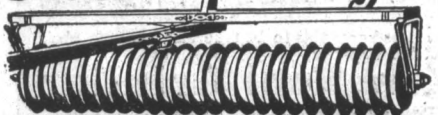
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