

MICHIGAN FARMER

AND
LIVE STOCK
PUBLISHED WEEKLY.

JOURNAL.
ESTABLISHED 1843.

The Only Weekly Agricultural, Horticultural, and Live Stock Journal in the State.

VOL. CXL No. 4.
Whole Number 3627.

DETROIT, MICH., SATURDAY JAN., 25, 1913.

{ 50 CENTS A YEAR.
\$2 FOR 5 YEARS.

The Live Stock Meeting.

THE Twenty-second Annual Meeting of the Michigan Improved Live Stock Breeders' and Feeders' Association was held at the Michigan Agricultural College, January 15-16, 1913. As usual the various affiliated breed associations held their several meetings in rooms assigned to them in the agricultural building on Wednesday, January 15. A brief review of these various meetings will be given in a future issue. Following the breed meetings the membership assembled in the auditorium on the top floor of the Agricultural Building for the purpose of reporting the action taken in the several sectional meetings and allowing opportunity for the payment of membership dues in the parent organization for the ensuing year. Each member, upon the payment of his dues, was presented with a ticket for the luncheon given by the State Board of Agriculture and college authorities to the visiting live stock men in the dining-hall of the Women's Building, to which the members repaired after listening to an interesting stereopticon lecture on "The process of the Manufacture of Wire Fence," by Prof. H. H. Musselman, of the Department of Farm Mechanics of M. A. C.

More than 200 of the Michigan Live Stock Breeders attended this luncheon, which was served by the young women students. Following the appetizing and well served luncheon, President Snyder acted as toastmaster and called upon several stock men and others, including members of the legislature and state board of agriculture.

The meeting of the association proper was called to order at 9:00 a. m. on Thursday by President R. C. Reed. Following the secretary's report and the appointment of committees, President Reed delivered his annual address. After reviewing the progress of the year and congratulating not only the live stock industry but the country and humanity in general upon the substantial progress which has been made along commercial, scientific and educational lines, President Reed devoted the balance of his address to the consideration of the more immediate interests of the association as follows:

The Live Stock Industry in Michigan.

"There is no more important adjunct to the commercial well-being of this commonwealth than is this industry. Our mines, our waterways, and water power are not to be compared to this great industry as affecting the well or woe of the people of this commonwealth in years to come. For upon the live stock depends to such a great extent the future fertility of our soils, and upon the fertility of our soils depends the future food supply of our people. The black earth belt of Russia was once the most fertile spot of the world, but by excessive cropping this has become a barren waste. This is simply an object lesson to the United States. Proper crop rotation and the live stock industry are indispensable to the continued fertility of our land. The live stock industry is more profitable and elevating, consequently more desirable.

"To us, then, of this association has come the responsibility of providing a goodly heritage to coming generations. We must not despoil the heritage that has been left us before we hand it down.

Health of Our Animals.

"The health, growth, and development of our animals are all questions of vital moment, but only the first of these can possibly be brought within the time of our consideration. The men of this association should be the first of all the people of the state to safeguard and protect the health of the domestic animals of this state. We should be the first to resort (if need be) to heroic measures. We should be the first volunteers to meet

heavy losses for the sake of the health of the domestic animals, and I believe we are. For no one else is so vitally interested as we. With some of us our entire possessions hinge upon keeping our herds and flocks clean and in a healthy condition. We need not only to preserve what we have but if possible to extend their reputation until a greater number of prospective buyers shall know that in no state in the union, in no province in America and in no country in the world is the general health of the live stock better than in Michigan.

"Within a short period I have been in

assisted us to attain what we have. First in a private and then in a public way. Gentlemen, understand I am speaking of you when I say that it has been reported from shore to shore of this continent, and to the lands across the sea, and this is the general reputation that you have, that in no land or clime, in no place does the buyer find the moral fiber more strong; in no other great live stock center does he find the golden rule more honored than among Michigan pure-bred live stock breeders. And this has been a mighty factor in bringing to this state the hundreds of thousands of dollars that



Three Cows Used in Breed Type Demonstration at the Holstein Breeders' Meeting.

These cows are Flossy Grant 32.94 lbs. butter and two of her sisters. Their average age is 4 yrs. 9 mos.; average butter record, 29.38 lbs.; average milk record 610 lbs. and average test 3.92 per cent butter-fat. Owned by Geo. H. Gillespie & Son, of Ingham county.

19 states and provinces of North America. I have been in communication with the people of many more states and I want to tell you gentlemen that Michigan today enjoys a happy distinction for the health and vigor of her domestic animals. There is not a state in the union that has a better rating. And yet Michigan contains one of the greatest thoroughbred live stock centers in the world. The cattle that have gone out from this state have on account of their own vigor and health and performance, brought this very enviable reputation. The cow that holds the world's dairy record for seven and 30 days' production of butter was raised within a few miles of this city.

"We should study what agencies have

come in exchange for Michigan registered live stock in the recent past. Brothers, I am not throwing to you an undeserved compliment, I am simply giving to you what belongs to you as I found it. And I am proud to be associated with an organization whose members have a nation-wide reputation of this kind.

Live Stock Sanitary Commission.

"Nor is this all. We have had a conservative, thorough live stock sanitary commission, that has given itself to the assistance of the live stock industry. And when we make comparison between this and other states, in some of which the live stock industry has been practically annihilated so that there is but one dairy

animal to 17½ of its population, and the expense for the maintenance of its Bureau of Animal Industry for one year is as much as it cost to maintain the Michigan Commission through all of its existence. And these states now shifting or abandoning their plans and they are conceding that the general health of the animals of the state has not been improved, although they have slaughtered many valuable animals, and spent millions of money. When we think of the conditions existing in Pennsylvania, New York, Massachusetts and other states, we feel like Simon when he called out to Peter, saying, 'Pray your God that none of these things fall upon us.'

"This college, too, has been a mighty factor. Some of the men connected with the college have multiplied their regular duties and labors that they might be of real value to the entire people of the commonwealth in the solution of those great problems that surround the food supply of our people. And on account of these labors and efforts this college has a very secure place in the hearts of the producers and consumers of this great commonwealth. And if the time ever comes when in order to please those students who are entering an overcrowded profession, the name of this college is changed, and we no more have the M. A. C., we want to come and raise on this campus a shaft towering far above any structure now here and from it shall float a black streamer, upon which shall be inscribed in white letters, 'Blessed are the dead who die in the service of humanity.'

"Friends, we have been fortunate and we should move very cautiously toward any change. Those individuals who have their wealth, health, and life, invested in this business are more interested than anyone else in safeguarding it. These are willing to continue the heroic effort that 'Michigan, My Michigan,' may stand in the front rank of all the states of the Union in this great industry.

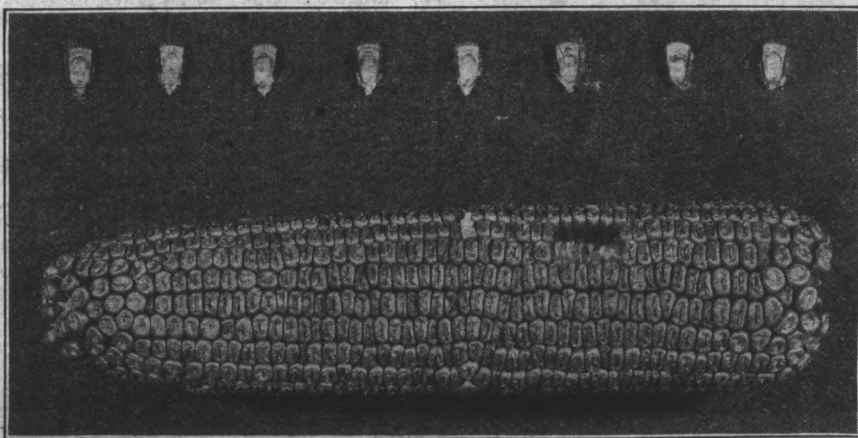
The Panama Exposition.

"When we consider the importance and value to our state of the live stock and agricultural industries and the very important part in the economy of the nation these are to play; if we could at this time bring before us the 6,000 men who are owners of registered pure-bred cattle in the state of Michigan; were it possible for us to see the value of their equipment and then to picture what it means to the general welfare of the state for the present and the future, we might get a glimpse of the importance to this commonwealth of a proper exhibit of agriculture and live stock from this state at the Panama Exposition at San Francisco in 1915. Men in other states are already active; legislatures of other states are already inaugurating those movements that will turn the attention of the world to them, and men we should be active, we should be alive, to our opportunity. With the great prestige Michigan now has, much of which has come by private endeavor without cost to the state, this state should in this instance make the agricultural and live stock exhibit at this exposition one that will reflect credit upon this important industry.

"The world will cry out, 'Shame upon us,' and we will blush with remorse, if we fail to seize upon this opportunity.

"Friends, the vision that crowds upon me now is all-inspiring. It is the vision of Michigan, with her 4,400,000 acres of available marsh lands reclaimed and furnishing food for the people of this nation. It is a vision of those depleted farms and barren soils of our state producing as they can and will produce in years to come bounteous crops. A vision of Michigan with a highway system that shall supply to one of our greatest needs,

(Continued on page 94).



1912 Championship Ear—Winner of Michigan Farmer Trophy at State Corn Show.

Pictured above is the ear of corn which was pronounced the best exhibited at the recent annual meeting of the Michigan Corn Improvement Association held at Kalamazoo. It was grown by Mr. D. E. Turner, of Jackson county, and is of a strain of white cap which has won honors at former shows. Though differing widely from the championship ear of 1911 in variety and color, the two are almost identical in size, this ear being a trifle the larger. Its length is 8½ in., its circumference 7 in. and it weighs 13¼ ozs. It has 20 rows of kernels which, with a kernel depth of practically ½ in., gives fairly satisfactory shape of kernel and indication of strong shelling quality.



Damaging Air Spaces Due to Wrong Plowing



Land Plowed Right—"C.T.X." Bottom No Air Spaces

Plow Right and Protect Your Crops

The coming season may be dry and hot. Better be prepared for drought in case it does come. Better see that no air spaces are left between topsoil and subsoil, whoever does your plowing. For those air spaces cut off the moisture from below and rob you of half your crop.

You'll have no air spaces if you use a Rock Island "C.T.X." Universal Plow.

It turns each slice clear over, flat and smooth. Buries all trash. Pulverizes dirt—saves one harrowing—leaves the topsoil in close contact with subsoil. In dry weather, moisture comes right up from below, like kerosene comes up your lamp wick. This feeds and saves your crops.

All due to the peculiar corkscrew-like bottom on the Rock Island "C.T.X." Universal. This patented mouldboard carries the dirt backward and DOWNWARD not backward and UPWARD, like all other plows. A very simple invention, but one that is revolutionizing all plowing methods. (Picture A shows Rock Island Universal bottom, and the arrow shows how dirt travels. Picture B shows ordinary plow bottom, and arrow shows how dirt travels.)



A Genuine UNIVERSAL Plow

And the beauty of it is, with this plow you can plow up any field on your farm. Tame Sod, Heavy Clay, Sandy Loam, Mixed Soil, Stubble Fields, Old Cornfields, Meadows, etc., all look alike to the Rock Island "C.T.X." Universal. Saves buying a new plow or bottom for sod.

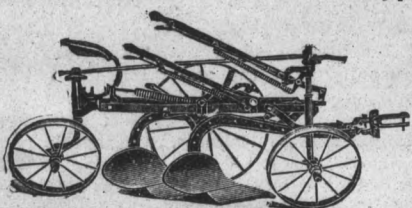
It's a Universal plow that does perfect work in all cases and leaves no air spaces. That's why this plow so quickly became the sensation of the farm world. That's why you'll want it the minute you see it. Send a postal now, and we will tell you where you can see a "C.T.X." and price it. You can judge yourself and will realize why it's so much better.

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A FERTILIZER of worn out or sandy soil it is unequalled. Sow Sweet Clover on the sand hills of Colorado and Nebraska and get a bumper crop. **CATTLE** pastured on Sweet Clover fatten as if fed on prepared food. Sown in the orchard it loosens the soil and promotes growth. Ploughed under it increases crops from 50% to 100%. Write for prices.

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CLOVER \$4.50 AND TIMOTHY 1 Per Bu.

INVESTIGATE—Best and Cheapest Seeding Known. Alsike Clover and Timothy mixed, Fully 1-3 alsike, a big bargain. Greatest hay and pasture combination grown. Write for Free Sample and 76-page catalog and circulars describing this wonderful grass mixture. Beats anything you can sow and ridiculously cheap. We handle only best tested re-cleaned seed guaranteed. Write before advance.

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OATS Reg. Swedish Select and Imp. American. Two pure and free from dodder. Write for free sample on which we invite you to get Government tests. This seed should produce hay at \$60 per acre annually. Free instructions on growing.

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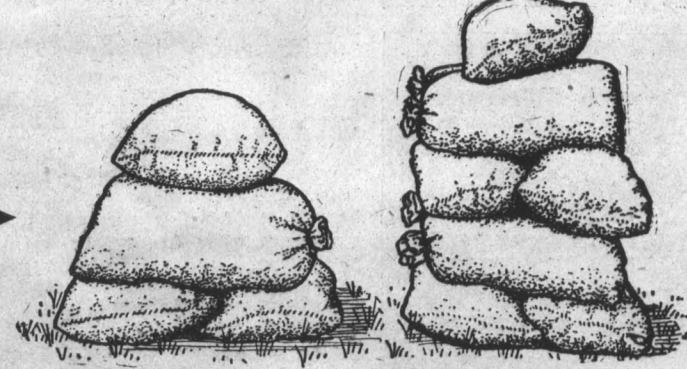
FIRE DRIED SEED CORN **A. W. JEWETT & SONS, Mason, Mich.**

PULVERIZED LIME ROCK

We are now booking orders for shipment of our **Magnesian Lime Rock** for soil purposes beginning March 1 from our new pulverizing plant at Muskegon, Michigan. Write for booklets and lowest prices now.

LAKE SHORE STONE CO., Milwaukee, Wis.

Milwaukee, Wis.



THE above picture shows the comparative results of fertilization with manure alone, and with manure and Rock Phosphate. The use of Rock Phosphate gave an increased yield of 47%. Cut reproduced by permission from Bulletin No. 174, University of Wisconsin Agricultural Experiment Station.

Director Thorne of the Ohio Exp. Station stated in a recent address that he has not found an acre of land in Ohio that has been under cultivation for 25 years which does not respond at once to the application of phosphate, and further that the highest and most profitable crop yields cannot be obtained without it.

Write us for prices on "Daybreak Phosphate," the most finely ground and uniform grade of Rock Phosphate on the market.

FEDERAL CHEMICAL CO., GROUND ROCK DEPT. Box No. 30, Columbia, Tennessee.

EXTRA VALUE OF MANURE DERIVED BY WINTER HAULING.

Farmers who have the winter manure hauling habit, as we sometimes hear it called by those who do not believe in the practice, and there are many who do not, are certainly on the right road to successfully getting the full value of their barnyard and stable manure. With the exception of manure applied upon hillsides or land that slopes towards some creek or ditch too abruptly, upon which the liquid portion of the manure would to some extent drain away, the manure applied in the winter months will prove a better fertilizer than that applied directly before plowing. As for those who are at all skeptical as to results, let them this winter cover half of one of their fields with the usual amount of manure they apply, and next spring cover the remainder and the chances are that they will require no further demonstrations.

It is reasonable that manure applied to the land now and left there will, during winter thaws and winter and spring rains, when perhaps the ground thaws up on top for a depth of two or three inches, become thoroughly leached into the ground for the same depth. And in the spring when the frost leaves entirely the plant food will reach a still greater depth, and still we have the coarse material upon the surface which may be plowed under. To the advantages thus obtained in the way of securing the full value of the manure may be added the fact that manure piled in the yards will lose, by leaching and draining of the liquid matter, also by heating and evaporation by the sun during the warm spring days, a considerable percentage of its fertilizing quality as well as quantity.

Labor Better Distributed by Winter Hauling.

Again, during the winter we may select days that even when the spreader can not be used we still may load upon a sleigh two common wagon loads of manure such as we would be able to draw in the spring, and go anywhere in any field upon the farm and need not look behind to see the ugly ruts and holes left by the wagon wheels, and any of us who have spread from the low-down and smooth running sled will testify as to its advantage over the wagon, or manure thrown in piles to be spread therefrom. Many spread from the ground from each side of the sled, using no side-boards or in the case of very fine manure using as low sideboards as possible, thereby having the opportunity to walk to and fro and in this way to cover the ground with as light and even a dressing as can be obtained by using the manure spreader.

Another result obtained by the direct to field method is that although perhaps you do not apply as evenly as some advocate, the melting of the snow will cause the liquid juices to be drained over and into every inch of the land as perhaps you noticed that when the snow is leaving in the spring each bunch of manure affords a protection to the snow underneath which will therefore be the last to thaw, the juices running down from the little hillock and reaching all surrounding spots not covered by the spreader.

Then another important advantage, in addition to those already mentioned, is the fact that land covered with winter manure, will in the case of a dry season or seeding time retain enough moisture to give any crop sown thereon a good start and will contain more moisture during the whole season following than it would otherwise. It will also be found that upon land intended for the later crops a growth of grass will have sprung up through the winter manure, while in many cases portions not manured will be almost bare, and upon the first we get the value of the green matter encouraged by the top-dressing of the winter as an additional fertilizing agent, and especially is this noticeable upon old meadows.

Considering the points already explained and the disadvantages of having to haul the manure before plowing and in the midst of other spring work, during perhaps hot weather and over soft fields, and if not able to use the spreader, spread the same by hand, plowing immediately to a depth of five or six inches from where a large portion is leached still lower and its value therefore lost to a certain extent, does it not seem as if it would prove a paying proposition to haul every pound of manure possible to the field at once, giving it the opportunity to become of as much value as is possible, to our land. More farmers are getting this profitable "habit" each year, and having once begun the practice of haul-

ing manure directly to the field in winter few discontinue the practice.

Macomb Co.

R. D. SMITH.

THE VALUE OF THE MULCH.

We usually think of mulching in connection with drouths and with our efforts to control moisture only. But we must soon learn more definitely just what effect the mulch has on soils in other respects than retaining moisture. For it does have other far-reaching beneficial effects, as may be seen easily enough by carefully observing mulched and unmulched areas from one end of the season to the other.

An old, rich potato patch was put in strawberries and cultivated and kept mulched with straw, but not fertilized or manured, for two years, when it was again put in potatoes and the yield increased 30 per cent. The strawberry patch was burned off twice in this time but this could not add enough fertilizing constituent to produce a 30 per cent increase. And the simple rotation could not be responsible for very much of it. So we are led to believe that the mulch is largely the cause of it all.

Nature a Safe Guide.

Men go back to nature to find the ideal soil. The virgin soil is perfect, and we take it as our model when trying to improve our land. Then why not mimic nature in the matter of mulches. Nature prepares the most perfect of mulches for all the year round, not simply for a month or two during the dry season. The bare earth exposed to the action of the elements is something loathsome to look at, and a reproach to all mankind, as well as an expensive piece of folly; it is but rarely seen in nature.

The original vegetation of this country was very luxuriant, healthy and thrifty. And not so without good reasons. The trees shed their leaves year after year, which made a perfect mulch, added some fertility to the soil and kept the ground in such perfect physical condition that they were enabled to grow and resist the invasions of enemies most effectually.

And so examples of this kind might be multiplied and cited without end. What could make a more perfect mulch than a carpet of pine needles, or a coat of dead prairie hay, or a russet rug of broom-sedge stems?

The wheat grows in the fall and, when cold weather comes, lies flat to make a mulch, or cover crop, which is all the same, to protect itself and to save the fertility of the soil. If it fails to make growth enough in the fall to do this, the crop will be short as a general rule.

An old stack-yard lot improved 100 per cent in three years. Haven't you noticed this same thing? Now, the fertilizer added by the small amount of wasted hay that decayed here was insignificant. Where did the great amount of fertilizer come from, then? From the improved condition of the soil brought about by the mulch. Careful observations lead us to believe this, and nature exonerates us in the conviction.

Large areas cannot be mulched perfectly with straw, leaves or any such material, and the dust mulch is very often impracticable, as in the case of growing crops that cannot be cultivated. Besides the dust mulch is only a temporary makeshift, answerable only for a short period of time and when nothing better is possible. If we cannot do better, we can at least take stock off the pastures in time for the grass to grow and make a covering for winter. We can sow more cheap crops, like cow-horn turnips, oats, rye and rape, or any such things that will protect the soil from the severe action of frost, thaw-outs and heavy rains with the consequent erosion, as well as from burning in the summer.

The heaving of ground in winter drives out the humus content at a rate that is appalling. The severe baking of ground in summer, in some mysterious way, uses up fertility much the same as a growing crop. A good mulch prevents it all, and saves fertility. It is a curious fact that the severe action of the elements, sun, frost and rain—destroys fertility, while a moderate action makes more of it available.

Agricultural experts tell us that the potential fertility of the soil is unlimited. Well, a good mulch is one of the best of things to preserve whatever amount is already at hand as well as to make more of it available. And by mulch we mean any kind of cover crop that protects the ground in a thorough manner from the severe action of the elements, either in summer or winter.

Indiana.

E. P. H. GREGORY.

INVESTING FARM PROFITS IN THE FARM.

Successful business men reap a profit from their undertakings no matter whether the business is large or small, whether it is a manufacturing business or wholesale or retail dry goods or grocery business, or that of operating a farm. Profit means increased capital and increased capital in most business ventures means increased business, because a good manager uses his profits to enlarge his stock, and thus the volume of the business grows accordingly. Many farmers are loathe to invest money earned by their farms from year to year in increasing their holdings or in better equipping the plant already in their possession. The money is placed in the bank or let at a comparatively small interest on mortgages. Oftentimes the borrower uses the money for the very purpose the lender should have used it, viz., to buy better equipment and place his farm or his business in a position to earn greater returns.

Profit in farming depends not only on the intrinsic profitability of the enterprises adopted, but also to a great extent on the amount of power employed and the amount of capital invested. If there is profit in an enterprise conducted on a small scale there ought to be more profit in it when conducted on a larger scale.

Large farms cannot be operated successfully without a comparatively large amount of capital, so it is necessary that the beginner commence on a small scale. We learn by experience, and, as knowledge of the business grows, larger undertakings are warranted, and with the growth of knowledge comes the increase of capital, each working to warrant an increase of investment in the business of farming.

Few indeed are the farms which could not be made to yield larger returns on capital invested by a judicious use of more money in enlarging the holding, or in putting the farm implements, buildings, stock and other equipment in a better condition through increased purchases or repairs. Labor-saving devices mean much in the recouping of cash returns from the farm. Labor is one of the most important and limiting factors in farm profits. Horses and machinery in connection with a majority of farm operations are far more economical than hand labor. For instance, many of our larger farms are being operated by four-horse teams, instead of as formerly by two-horse teams. The farm tractor is also playing an important part in this respect.

In the change from the smaller size of implement to the larger there is need of a capital outlay, but who would question the advisability of making this outlay? Is capital thus invested not much more potent as a factor in increasing itself than were it locked in a bank vault at four per cent interest? Where such a change is made many do it gradually. Carefulness is advisable in most things, but a number of two-horse and a number of four-horse implements on the one farm is not, as a general rule, profitable. Uniformity of equipment is most economical. Four-horse implements save the time of one man, and where one man only is available, the constant use of four-horse implements increases his efficiency.

This is simply one point. There are many others. How many farms are carrying the largest number of cattle, horses, sheep and pigs that they could possibly carry at a profit to their owners? Not many. Some there are who may have reached the limit in this direction, but they are indeed a small minority. We hear much of the scarcity of beef cattle; milk and its products sell on a ready market at a high price; hogs bring good returns; and the draft horse finds plenty of buyers. Could not some of the profits of the farm be profitably invested in the right kind of live stock. More live stock means that more feed would be fed on the land, increased fertility and larger crops would follow. Reaching the limit in the number of animals fed on the farm also brings out better methods. Crops will be more carefully rotated, leguminous crops worked more into the rotation, and better all around farming will result.

More live stock also necessitates more machinery, for the increased labor makes this imperative. Good implements and machines, provided there is work for them, are always profitable. It is, however, a loss to have too many expensive machines on small farms or on farms where they are needed only a few days in a year. Increased stock or increased acreage will mean that many of these

implements or machines will be used to better advantage, because there is much more for them to do, and they are idle at shorter and less frequent intervals. The whole problem properly managed means that when the capital made from the farm is judiciously increased therein increased returns are sure, for each branch properly managed works so well into the other branches that they all make for good.

Illinois.

W. H. UNDERWOOD.

FARM NOTES.

Germination Test of Seed Corn.

In testing corn for seed, how many kernels do you take, and from what part of the ear, butt, tip, or middle? From the number of kernels taken, how many ought to grow to save the ear for seed? In seeding a field to alfalfa is there any danger of the roots stopping up the tile underdrain; the tile are down about three feet?

Hillsdale Co.

M. G. B.

In making an ear test of seed corn to determine its percentage of germination and fitness for seed the usual custom is to take four kernels from each ear going spirally around the ear from butt to tip, extracting the kernels so as to get a representative sample from the ear. The ear is then numbered and the kernels are placed in the corresponding square in the testing box. The object in making such a test is to get as nearly a perfect germination as possible in the seed corn used, and thus insure the best possible stand of corn. Hence no ear should be saved which does not give not only 100 per cent germination, but shows a strong vigorous growth of sprouts from every kernel. If any kernel from any ear does not grow, or if the sprouts which develop are weak in comparison with the others, the ear should be discarded when making the selection for planting.

Alfalfa and Tile Drains.

Thousands of acres are in alfalfa on tile-drained land without any serious difficulty from the alfalfa roots filling up the tile. This result would be likely to obtain only in spots where the water would stand in the tile, which could occur only where the tile was not laid true to grade.

Eradicating Sandburrs.

How can I get rid of sandburrs when they are well established?

Jackson Co.

J. W. W.

Like other persistent weeds which have become well established, we know of no way to eradicate sandburrs except by such thorough culture as will prevent the plants from making leaf growth. This will at the same time promote the germination of seed in the surface soil and the pest will thus be eradicated. Planting to cultivated crops and the cultivation supplemented by hand-hoeing would be an effective way; or summer fallowing could be practiced where the land is being prepared for winter grain crops.

A MORE INTENSIVE USE OF THE SOIL.

The density of the population of a state determines in a large measure the kind of agriculture that is followed by its farmers. As our cities increase in size larger demands will be made upon the soil of the proximate territory for the production of perishable products, including garden and fruit crops. This change is evident in Michigan. Each year sees an increased acreage and greater attention devoted to the production of those crops that cannot be moved far to market; and it is the deduction of political economists that in days to come the yield must grow to meet the increased wants of the larger civilizations to come. Gradually general farming will give place to a more intensive agricultural practice, especially in those communities easily accessible to city markets. Grain and live stock can be transported more economically over longer distances than strawberries and that without the deterioration certain to accompany the long shipment of the fruit. It is therefore, wise for one to consider his environment whether he should continue along old lines of general production or whether he should gradually change to a more intensive scheme. Many favorably located Michigan farms have remained too long under the old regime, but it is true that many others are taking on new life and meeting the demands of the times.

Wayne Co.

A. H.

RENEW NOW.

The Michigan Farmer, one year 50c; two years \$1.00; three years \$1.25; five years \$2.00. One-half the price of other weekly farm papers.

One Dollar

Is All It Now Costs to Have Your Seed-Grain Cleaned and Graded



Manson Campbell

Now that farmers everywhere are cleaning and grading their Seed Grain, the question is, how to get it done best, easiest and cheapest. Here's my 1913 offer:

Send me one dollar and I will ship you, FREIGHT PAID BY MYSELF, this improved 1913 model Chatham Grain Grader and Cleaner with all equipment. Clean your Seed Wheat, Oats, Flax, Barley, Peas, Beans, Corn, Grass Seed, etc. Then PLANT those fine seeds. AFTER you have harvested a bumper crop, pay me the balance of my low price. Not one penny need you pay, except the \$1, until next November. And by November YOUR CHATHAM WILL HAVE MORE THAN PAID ITS ENTIRE COST IN INCREASED CROPS. Then you'll have a "Chatham" to work FREE for you the rest of your life.

Your Dollar Returned

If you want it. I don't want your dollar or want you to keep my "Chatham" unless it pleases you. If, after a 30-day test, you are not satisfied, return the machine at my expense and I will send back the dollar.

A Machine That Fits Your Farm

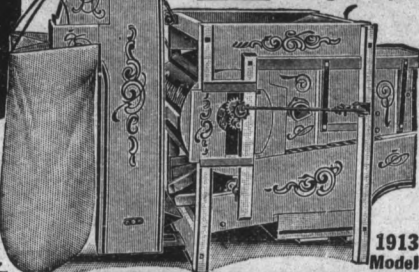
After 40 years' experience, I know every grain and noxious weed grown in America. I know the section where each one grows. I know every grain and weed that grows on your farm. Experience has shown that a Grain Grader and Cleaner should have special equipment for the particular farming section to which it goes. For example, I send an entirely different equipment of screens, riddles and gangs to Maine from what I send to California. In fact, there are scarcely 2 states in the U. S. to which I send the same equipment. Thus you get the exact and proper outfit to handle the grains and weed seed that grow on your farm. You don't have to pay for a lot of extras for which you have no use.

Extra Screens and Riddles Free

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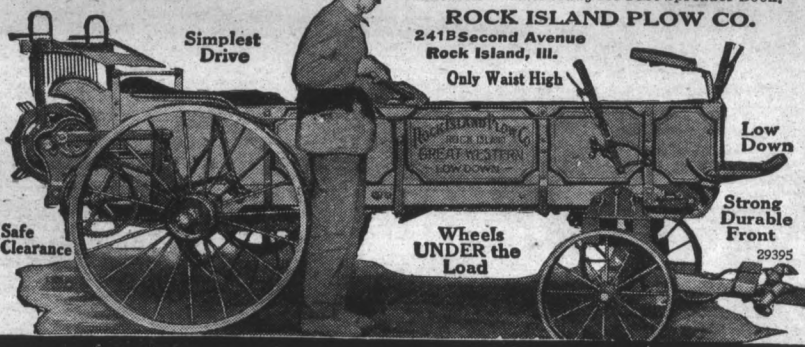
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Dairy.

WHAT IS DAIRY INSPECTION ACCOMPLISHING?

Every reader who has followed my writings knows that I have always urged dairy farmers to co-operate with dairy inspectors in cleaning up their premises and keeping things in a sanitary condition. We want to produce clean milk and maintain our cows under healthy and sanitary surroundings, but there is a limit to every farmer's patience and purse; and after reviewing some of the work of the dairy inspectors in this locality I am firmly convinced that it is time for dairy farmers to organize and call a halt before they are at the mercy of certain political crooks who are bleeding both ends of the milk business. It is this infamous class of work that is widening the gap between the milk producers and the city boards of health. It is not my purpose to criticize the functions of health boards, for they need our co-operation and help, but they must adopt a live and let live policy, rather than put in force arbitrary rules and regulations which will force many of the owners of dairy cattle out of business. The most serious problem at the present time is the fact that the price of milk is going to be forced so high that if any of the city babies die, it is likely to be the ones who will starve to death from the lack of milk its parents can not afford to buy, or the children of the city mothers whom city health boards have so scared that they will try and rear their babies on some patent food that will kill them. Let the city babies have just such milk as the country babies have. Get after the transportation companies, teach your city dealers to keep their milk clean and sanitary and your city consumers how to care for it when it gets into their hands. Teach them how to care for their ice boxes and cleanse their milk bottles. Send your inspectors into the country to study the producing end of the business. Then, and not until then, can you bring about any great improvement in the quality of the milk supply of your cities.

New York. W. MILTON KELLY.

MUCH INFERIOR CREAM DELIVERED.

In spite of the wide publicity of facts pertaining to the poor quality of cream delivered at creameries it is evident that comparatively little improvement has been made. Investigations by the Department of Agriculture during the past summer showed that 61 per cent out of 5,154 lots of cream were of third grade—that is, dirty, decomposed, or sour and practically unfit for food. This appears to be a slightly better showing than obtained during former investigations but the change for the better has been much slower than it should have been. The situation, of course, is one not to be surprised at for other reforms of a similar nature have come with even less speed than is noted here.

It is probable that the change for the better could be effected with greater dispatch if the producer could see some recompense in it since he has no idea of consuming the product made from the cream he is delivering, and the price paid for the sweet cream is scarcely any different from that paid for the dirty, sour, or decomposed lot. About the only motive the farmer can have is that some unknown person will get a better article of butter for which that stranger will pay a higher price—the difference going, not to the farmer, but the middleman. Now we must confess that in the realm of morals such a motive is very laudable but in the business circle it does not furnish an incentive that is apt to be followed seriously. There are no more sympathetic and generous people than are the farmers of our state and land but they wish to do their charity work under the head of philanthropy and not to disguise it under that of business. Furnish the farmer a substantial motive for getting his cream to the creamery in a sweet condition and we venture to state that the improvement will be more rapid.

There, of course, will be exceptional farmers whom such an inducement will not pull away from old practices. It always has been, and perhaps always will be, necessary to compel a certain few of every locality to change, either by refusing them a market, by inspection, or by legislation, but the mass of producers will sooner or later make improvements

in equipment, methods of production and delivery if they can be made to see that it pays.

Experience has shown that what is said above actually works out. Creameries have tried grading cream, paying a premium for that delivered in first-class condition and the managements have been surprised at the marked improvement in the quality of the raw material on its arrival at the factory. And the problem would be easily solved were it not for the fact that there is competition between creameries, especially between local creameries and centralizers. When a creamery attempts grading and offers a higher quotation for the best cream it is necessary to cut the price for poor cream in order to make the average prices such that the business can be conducted profitably. This margin affords the outside concern an opportunity for "butting in," which is often taken advantage of and frequently compels the local creamery to cease grading and return to the old practice to meet the competition. But for this disturbing factor the solution to the problem of poor cream would be comparatively easy.

Wayne Co.

SUBSCRIBER.

THE DAIRYMAN'S INDICATORS.

In order to put dairying upon a business basis every farmer needs to use the milk scales, the tester and the record book. The successful business man has a ledger to guide him in his transactions. Every dairyman needs to enter a separate account with each of his cows so that he may have an indicator to tell him at the end of the year just how much feed each cow has consumed, the amount of milk produced and the percentage it tests. Too many farmers of the country are keeping the scrub cow, feeding and milking her twice each day, fourteen times each week, sixty times each month and 720 times each year, merely for the pleasure of her company, when a portion of this time might well be expended in estimating the feed, weighing and testing the milk and crediting the same to each cow. Many good dairymen squander 30 minutes each day gambling with the scrub cow when three minutes time with the scales, tester and record book would put the herd upon a paying basis and money in their pockets. The keeping of records is a business transaction and means the essential difference between knowing and guessing, pleasure and drudgery, profit and loss, success and failure.

Oakland Co.

READER.

AN UNUSUAL RECORD.

Since dairymen have begun to keep account with each animal of their herds many interesting performances are being brought to light. Cole Bros., of Washenaw county, report to us that Ypsiland Johanna Hengerveld was pasture-bred when only seven months of age and at 16 months of age gave birth to a splendid heifer calf. She then gave a heavy flow of milk for 10 months, as they were unable to get her dry before, and at two years and five months gave birth to another splendid heifer calf and made an official record of 18.38 pounds of butter from 421.7 pounds of milk in seven consecutive days. The owners are certainly to be congratulated upon the possession of an animal of such qualities.

THE VALUE OF THE PURE-BRED SIRE.

It is astonishing to see how little faith the average farmer has in the pure-bred sire. He seems to think that if the grade sire, or scrub sire, is as good an individual and looks all right, that he is just as liable to get results from using him as he would to use a pure-bred sire. He doesn't seem to understand the great law of heredity, that the offspring inherits the conformation, the outward looks of the animal, but also the dairy quality of the parent. With the pure-bred sire the outward appearance or conformation as well as the dairy quality has been fixed by long periods of breeding and selection so that when this animal is mated the progeny is more likely to have these characteristics, both conformation and dairy quality. The great law of breeding is that like begets like, or the likeness of an ancestor. You are just as apt to have a likeness of an ancestor in the progeny as to have the likeness of the sire or the dam, and when we use a grade sire or a scrub sire we know well enough that there are more undesirable near relatives of this animal than when we



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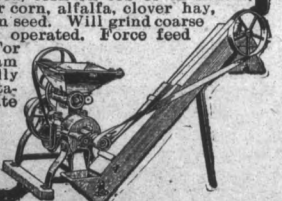
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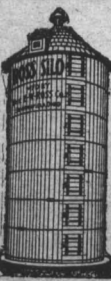
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use a pure-bred, because a great deal less pains has been taken in the selection and breeding of the ancestors. Consequently, while once in a while we may get a superior animal from this kind of a sire, the majority of them will not be as uniform and will not be as good. It is not to be expected that they should be as good as the progeny of a pure-bred animal.

The pure-bred animal has a great advantage over the grade or scrub sire. His ancestors have been selected for a given purpose for generations which has fixed the type and the characteristics, and he is much more apt to fix this type and these characteristics in his progeny than the more unfortunate sire who hasn't come from a long line of ancestors presenting uniformity in conformation as well as other characteristics. Of course, we don't expect that all of the progeny of the pure-bred sire is going to be excellent because breeding is not an exact science, but we do expect, we certainly have reason to expect, and we do know from actual experience and observation, that a greater majority of them possess the characteristics of the sire than do the progeny of grade or scrub sires, and it is all due to this great law of heredity. The progeny inherits the characteristics of the forefather.

Today there is no excuse for a dairyman using a grade or a scrub sire. The time was, years ago, when he was excused in doing this because it was almost impossible for everyone to have the services of a pure-bred sire. There were not enough of them to go around. They cost too much money. But today there are plenty of them. With any of the dairy breeds of cattle a pure-bred bull calf can be purchased at a price within the means of any dairy farmer. Surely he can be purchased within the means of two or three dairy farmers, even though they keep only a few cows. They can combine together and purchase a sire which will answer the purpose of all at a very reasonable price, and there is no reason why, if a man understands the value of the pure-bred sire, he shouldn't take some pains in seeing to it that he has the service of a pure-bred sire. If he doesn't want to own it himself then he can procure the service of one owned by someone else. He can co-operate with his neighbors in the purchase of one, and have one so that he can use it, and in this way he can raise dairy heifers of much greater value at the same expense that he can by using grade or scrub sires as the case may be. He must remember that the looks of the animal, the outward appearance is not all there is to a dairy sire. I will admit that there are many grades that look like pure-breeds. If we would judge just from external appearance we would say that one was as good as the other, but this is only a superficial view of the case. They may be equal in looks but they are not equal as sires, because the pure-bred sire is more likely to have prepotency, the pure-bred sire is more liable to fix not only his personal appearance upon his progeny but to fix that which is of greater value, the inherent dairy quality of his ancestors, and it is the inherent dairy quality of his ancestors the dairyman is so much interested in, and which is so valuable to him. It is of so much value that he cannot afford to breed one single cow that he owns to a grade or a scrub sire. Perchance if he does he may get a good dairy cow, but the risk is too great. He has no right to take this risk from a business standpoint when he can get the service of a pure-bred sire at such a reasonable rate as he can get at the present time.

The only reason that I can assign why farmers will submit to the use of anything but a pure-bred sire is simply because he has not taken the pains to study up this question of heredity, because he does not thoroughly believe in it, for if he has studied the matter he will be so convinced that you could no more get him to breed one of his cows to a grade or a scrub sire than you could to get the man who is breeding the American trotting horse to breed one of his trotting mares to a Percheron or a Cleveland bay. When he has studied this question of heredity enough so that he realizes the importance of a pure-bred sire in fixing the dairy qualities of the progeny then the grade sire ceases to interest him because he knows he cannot afford to take the risk and he realizes that he does take a very serious risk when he breeds to a grade or a scrub sire. He should not only breed to a pure-bred sire but to a good pure-bred sire. He should use great care in selecting an animal containing the best dairy animals as ancestors.

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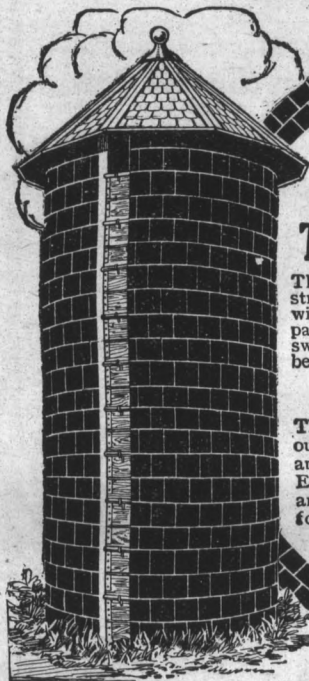
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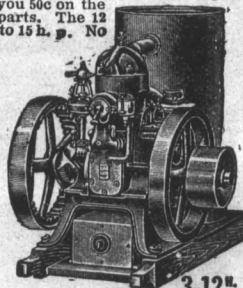


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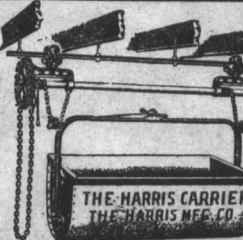
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All Mitchell 1913 cars have left drive and center control; Bosch ignition; Rayfield carburetor; Firestone demountable rims; rain-vision windshield; Jones speedometer; silk mohair top with dust cover; Turkish upholstered cushions; Timken front axle bearings; gauges on the dash to show air pressure and oil pressure; gauge in gasoline tank showing amount of gasoline it contains; and a portable electric lamp which also illuminates the instruments on the dash.

All with T-head motor, electric self-starter, electric lighting system, and 36-inch wheels

	Motor	Wheel Base	Prices F. O. B.
7 passenger Six	60 H. P. 4 $\frac{1}{4}$ x7 in.	144 in.	\$2,500
2 or 5 passenger Six	50 H. P. 4 x6 in.	132 in.	1,850
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The Live Stock Meeting—Continued.

not only a good roadbed but well kept roadsides growing food instead of weeds. A vision of Michigan with her live stock production increased to meet the demands of the increase of population and with the health, vigor and productiveness of her animals recognized and lauded the world over as today. A vision of Michigan with her one and a fourth millions of people working in gainful occupations, so educated, and so understanding the true principles of co-operation that they can work in perfect harmony with the employer who has attained a broader manhood and higher ideals. A Michigan with order-loving and law-abiding citizens. A Michigan in which has been developed a type of sterling character and manhood, that has been and must be the backbone and sinew in governmental affairs if the perpetuity of this nation is assured.

"Do you say that this is an hallucination instead of a vision? Do you say that this is impossible of attainment? When Lincoln was about to sign the Emancipation Proclamation that should break the shackles of slavery, friends of his and of the cause, came and warned him not to do it because there was not enough public sentiment. Lincoln replied, 'I will do my duty and that will make public sentiment.' If we are patriots, if we do our duty, that will make public sentiment."

"Friends, brothers, let us be inspired with a progressive patriotism, in keeping with this age, and hand down to coming generations that rich heritage, a Michigan, that shall be recognized the world over, as 'The lake encircled gem of the sisterhood of states.'"

Following President Reed's address, Prof. W. C. Coffey, of the University of Illinois, gave an address on the subject of "Sheep on the Michigan Farm." This address was so replete with information and contained so much excellent advice for the farmers of Michigan that we shall defer further reference to it until a future issue when space will permit a more complete review of Professor Coffey's excellent address.

Following the noon session, Mr. Wayne Densmore, secretary of the Percheron Society of America, delivered an instructive address on "Breeding Draft Horses in Michigan," which will be treated in a similar manner.

The last number on the program was an address by F. B. Scribner, of Wisconsin, who spoke in the place of H. B. Rawl, Chief of the Dairy Division of the United States Department of Agriculture, who could not be present. Mr. Scribner's topic was "The Duty of the Breeder to Dairy Improvement," and his address contained many suggestions of value which were appreciated by interested breeders present.

At the business session following the completion of the program, the following resolution was reported by the committee and adopted by the association:

Resolved, That the members of the Michigan Improved Live Stock Breeders' and Feeders' Association are opposed to the passage of H. B. 25499, introduced at the last session of Congress relating to government ownership or control of the different live stock registry associations, and that the secretary be instructed to send a copy of these resolutions to the several congressmen from this state.

Election of officers completed the work of the meeting, the choice being as follows: President, A. E. Stevenson, Port Huron; vice-president, W. P. Rosso, Mt. Clemens; secretary, G. A. Brown, East Lansing; assistant secretary, S. B. Wattles, Troy; treasurer, C. S. Bartlett, Pontiac; executive committee, H. H. Hinds, Stanton; W. H. Schantz, Hastings; F. R. Crandell, Howell; Geo. H. Brownell, Detroit; Colon C. Lillie, Coopersville.

The Barrow Show.

As previously announced there was a show of barrows of several breeds entered for the slaughter test, which were judged on foot, on Wednesday morning. In this contest there were entered three Berkshires, five Duroc-Jerseys, two Chester Whites and two Yorkshires. The breed winnings were as follows:

Berkshires, 225 pounds and over.—First, W. H. Schantz, Hastings; 2nd, J. S. Miller, Caledonia; 3rd, B. B. Berry, Leslie.

Under 225 pounds.—First, B. B. Perry. Durocs over 225 pounds.—First, L. S. Marshall, Leslie; 2nd, H. C. Beardsley, Pontiac; 3rd, J. A. Mitteer, Stockbridge.

Under 225 pounds.—First, J. S. Miller. Chester Whites.—First, J. Bernier, Gd. Ledge; 2nd and 3rd, Fred Nickel, Monroe.

Yorkshires.—First, Geo. McMullen; 2nd, Dr. G. L. Waterman, Ann Arbor.

The slaughter test resulted in the plac-

ing of carcasses as follows: All breeds competing in the two classes over and under 225 pounds in weight, the percentage of dressed carcass to live weight being given in each case:

Over 225 pounds, W. H. Schantz, first on Berkshire, dressing 84.4 per cent; 2nd, Geo. McMullen on a Yorkshire dressing 83 per cent; 3rd, J. S. Miller, on a Berkshire dressing 82.5 per cent.

Under 225 pounds, 1st, J. Bernier, on a Chester White dressing 77.8 per cent; 2nd, B. B. Perry, on a Berkshire dressing 79.5 per cent; 3rd, J. A. Mitteer, on a Duroc dressing 77.3 per cent.

This show and contest developed so much interest among the stock breeders that the executive committee have discussed the advisability of putting on a show for wether lambs to be followed by slaughter test in addition to the hogs at next year's meeting, this matter to be taken up at a later date by the executive committee. Altogether this was one of the best attended and most interesting meetings yet held by this association, and doubtless will be productive of much good to the live stock industry of the state, as well as to the breeders affiliated with the association.

NATIONAL WOOL GROWERS' ASSOCIATION.

At the convention of the National Wool Growers' Association, held at Cheyenne, Wyoming, January 9-11, the following resolutions were adopted:

Whereas, the tariff board has made a full and complete report as to the difference in the cost of producing wool and the manufacturers thereof in the United States and competing countries; therefore,

Be it Resolved, That we, the National Wool Growers' Association, urge the enactment of a law by Congress revising Schedule K in accordance with this report, imposing a specific duty upon the scoured content of imported wool;

And be it Further Resolved, That we urge that all forms of manufactures of wool be given that degree of duty needed to equal that difference in cost of production at home and abroad, as shown by the report of the tariff board. Also, that we recommend the maintenance of a non-partisan tariff commission.

And be it Further Resolved, That we are opposed to any reduction of the tariff on meat and meat products.

Whereas, It is the present policy of the government to require honesty in all merchandise offered to the public; therefore,

Be it Resolved, That we favor the passage of a pure fabric bill with requirements similar to those of the pure food law.

Whereas, The leasing of the unoccupied public domain is still being advocated by certain interests, and as no practicable plan has been presented; therefore,

Be it Resolved, That we are unalterably opposed to the leasing of the public lands by the federal government as provided by acts pending before Congress.

Other resolutions adopted were the following: Urging the passage of H. B. 26113, which appropriates \$200,000 to enable the Secretary of Agriculture to co-operate with the states in exterminating predatory wild animals; also urging the adoption of uniform bounty laws by the western states;

Protesting against the further creation of state or federal game preserves, believing that the present preserves furnish ample support for such game;

Urging every sheep breeder to carefully prepare his wool for market along the lines prescribed by the National Wool Warehouse, and especially to eliminate as far as possible the use of insoluble paint brands, and to tie the fleece with paper or glazed twine;

Commending the National Wool Warehouse and its new form of contract; thanking this company for the fine wool display at Cheyenne, and suggesting that this display be put in a car and exhibited through the wool-growing sections, and requesting free transportation for this car from the railroads;

Commending the officials of various lines of railway for what they have done in the past in giving improved service. Endorsing the publication of the National Wool Grower and authorizing its incorporation and permanent establishment at Salt Lake City.

Officers elected were: President, Frank J. Hagenbarth, Salt Lake City; western vice-president, M. I. Powers, Flagstaff, Ariz.; eastern vice-president, A. J. Knollin, Kansas City; secretary, S. W. McClure, Salt Lake City; treasurer, F. D. Miracle, Helena, Mont. An executive committee of one member from each state selected a board of control, which was authorized to draw up a new constitution and by-laws to be presented to the next convention. The secretary was ordered to file a brief in Congress protest-



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Pair of brood mares, 5 & 6 years old. Stallion coming 3 years old next June. Sound and right with size and quality. L. O. HUNT & CO., Eaton Rapids, Mich.

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PERCHERONS—One extra good dark gray, 3-year-old Stallion, a ton horse, also yearling stud colts. R. OVERHOLT, Dutton, Mich.

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Imported and pure bred Stallions. We make a special Belgian and Percheron variety of Quality, Bone and Weight. G. & H. LOCHER, Bluffton, Ohio.

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Best remedy ever discovered for Moonblindness, Pink-Eye, Cataracts and all ailments of eyes of animals. \$2 a bottle. Guaranteed. Write for our free horse book "Forty Facts for Horse Owners."
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ing against any change in the tariff on meats and meat products; also to appear in Washington at the hearings on the wool tariff.

The main address of the convention was that of Secretary McClure on "The Tariff," and, judging from its reception it voiced the sentiments of all the delegates. The main sentiment was that the manufacturers of wool were entitled to sufficient protection to equal the difference in cost of production at home and abroad, but that wool manufacturing is dependent on wool growing, and the wool grower is just as much entitled to protection as the manufacturers of wool, and if the manufacturers should ask for free wool, the wool growers will ask for free cloth. The latter does not intend to be sacrificed to the interest of the manufacturer. After tracing the history of wool tariff legislation in this country, and the real intent of the first real protective tariff on wool, that of 1867, which was based on the scoured content of the wool, the speaker went on to show the importance of wool growing and sheep raising, which represents a total investment in sheep and equipment of nearly six hundred million dollars, which is more than one hundred million dollars more than all the forms of wool manufactures represents to the entire United States, and there is no watered stock.

The secretary's report showed expenditures of about \$25,000 and results of far greater proportion. This money was used in presenting the wool growers' case before Congress as to the wool tariff, in securing reduction of grazing fees on the forest reserves, and in securing a reduction of the freight rates on wool. In this latter alone, more than a half million dollars was saved to American wool growers in the single year of 1912, regardless of that of future years. The association is doing good work for American wool growers and deserves the support of every man who owns sheep, while the cost to each sheepman is but a mere nothing.

The next convention is to be held at Salt Lake City in 1914.

Wyoming.

Roscoe Wood.

LIVE STOCK NEWS.

Secretary Wilson of the Agricultural Department, reports general compliance with the meat inspection law by the slaughtering houses at the large packing centers during the past year. He says that 60 per cent of all meat slaughtered is subject to federal inspection, the remainder being slaughtered by local butchers and farmers. Six million more animals were inspected the past year than during the previous year, he reports, the greater part of the increase being in hogs, of which five million more were slaughtered in 1912 than in 1911. Of the 59,013,819 animals slaughtered and inspected 203,775 entire carcasses and 463,859 parts of carcasses were condemned on account of disease or other unwholesome conditions.

Such an unprecedented boom as has taken place during recent weeks in market prices for fat lambs, yearlings and sheep fairly take one's breath away, the most sanguine expectations entertained by sheep feeders having been much exceeded. For the first time in several months prime handy-weight lambs have passed the \$9 mark, carrying up with them choice yearlings, as well as wethers and ewes, and even fair to middling live muttons have shot up surprisingly, for nowhere near enough choice lots have been offered in western and eastern markets to satisfy the large demand. Sheepmen should use the utmost care at this time to make their holdings as prime as possible, but they are too apt to make the serious mistake of holding both lambs and yearlings too long, counting on obtaining larger profits by adding more pounds. This really takes away much profit, since popular taste calls for fat lambs of medium weight; as well as for medium weights of yearlings, capable of being substituted for lambs in the retail meat markets of the country. The call for feeders is as good as ever, but offerings are few and far between, the liberal prices paid for finished stock being a powerful incentive to owners to finish them off themselves. The only stock offered on the feeder order is shipped in by inexperienced sheepmen who are not properly equipped for the business or by those who do not know how to go at it.

Recently published statements made by the agricultural bureau show that the exports of meats and food animals have been running unusually low in volume. The cattle exports for the 11 months ending November 30 aggregated but 44,997 head, compared with 152,288 for the corresponding months of 1911, while fresh beef exports amounted to only 8,330,000 pounds, compared with 27,000,000 pounds for the corresponding months of 1911. Great Britain, our principal customer, has found our prices too high and has purchased cheaper grades of beef from South America very largely.

Western stocks of provisions are melting away very fast, as is inevitable owing to the large consumption of fresh and cured hog products at a time of greatly lessened marketings of hogs, there having been 500,000 less hogs slaughtered at important packing points since the first of November than a year ago.

Save the Price of a Horse



(Return Apron)

By Buying the Moline Low Down Spreader

How do You figure the Cost of your farm machinery—the price of the machine alone, or what it takes to run it?

This splendid Low Down Spreader is not only easy to load, being but 42 inches in height at the rear wheels, but it is also

"The Lightest Draft Low Down Spreader Ever Built."

We have seen the large size Moline Spreader in use in a field with other makes, under exactly the same conditions, when it required one horse less to operate the Moline Spreader than was necessary to operate the others.

In figuring the cost, then, there is a saving in buying the **Moline Spreader** equal to the price of one horse.

Correct Mechanical Construction—Steel Frame—Steel Wheels—Steel Beater—Chain Drive—Roller Bearings.

The Moline is easy on the Man and Easy on the Team.

Our Handsome Spreader Booklet Free.

Also 1913 Flying Dutchman Almanac.

Write today.

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STEEL Tractors Have Come

Why pay \$2,000 to \$3,000 for a clumsy iron tractor outfit that wastes one-fourth your fuel in pulling itself, that can't get into fence corners, that can't be used on soft ground? Why do it, when for less money you can get a powerful Bates All-Steel Tractor?

The Bates, being all steel and not iron, weighs nearly 8,000 lbs. less than other tractors of same power! That means a tremendous fuel saving, and you can plow faster and can harrow your fields. **FOR THE BATES DOESN'T PACK THE SOIL.**

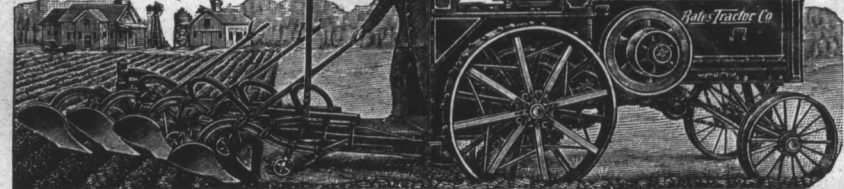
Turns Square Corners

The only tractor plowing outfit in the world that turns square corners. Can get right into fence corners. No need to finish your fields by horse plowing. No need of a plowman. The Bates Direct-Connected Plowing System enables you to handle both engine and plows yourself. Plow platform is parallel with and connected with the engine platform. No getting off to handle plows. No heavy lifting. Controlling levers in easy reach. Only one adjustment required.

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Is to select and clean all seeds and grains for sowing. This will improve the quality of the seed and bring it up to the highest standard. It will improve the quality, increase the yield and free your land from foul weeds. For this reason you should reclean all clover and other seeds that you buy before sowing. This is just as important as it is to clean your seed, grain and corn from your granary before sowing.

Every farmer knows that Large, Plump, Heavy kernels of seed, grain or corn will produce more and stronger plants, which will increase the yield and improve the quality. Admitting that this will benefit your crop only 10%, what would be your gain for one year? To say nothing of ridding your land of foul weeds, etc.

The U. S. Agricultural Dept., State Experimental Stations and all Prominent Seed Houses use the "CLIPPER" Cleaners for doing just this kind of work and recommend them.

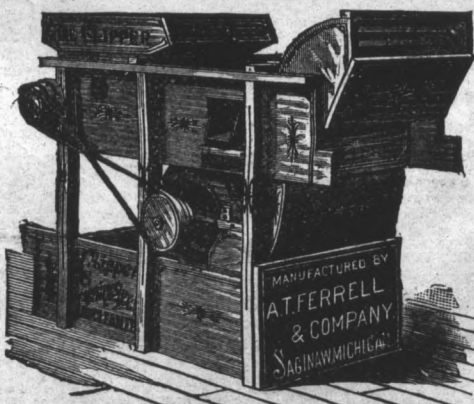
BECAUSE their experience has proven The "CLIPPER" to be the Most Successful Machine for Grading and Cleaning All Seeds and Grains.

This machine will do the same high-grade work as our large \$400 machines.

We Guarantee Satisfaction. Prepay the Freight. Give Thirty Days' Free Trial. You To Be The Sole Judge.

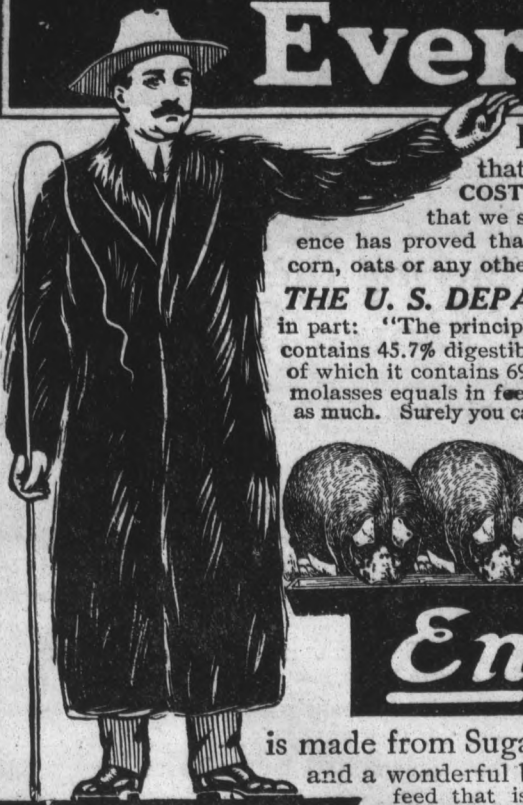
Three factors stand out prominently in farm progress—the soil, the working of same and the seed; none of which can be neglected, if bigger and better crops are aimed at. Distributing points in every grain growing state. Shall we send you our catalog and terms?

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THE U. S. DEPARTMENT OF AGRICULTURE in Bulletin No. 170 says in part: "The principle content of oats, for example, is Nitrogen Free Extract, of which it contains 45.7% digestible. The principle content of cane molasses is Nitrogen Free Extract, of which it contains 69.3% digestible—approximately 50% more". Think of that—a gallon of molasses equals in feeding value almost a bushel of grain and costs only one-half to one-third as much. Surely you can't afford to overlook such a feed if you want to make bigger stock profits.



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is made from Sugar Cane—appetizing—nourishing and a wonderful builder of bone, muscle and fat. A feed that is all feed—no waste. A feed that just fits nature's demand. Easy to feed. Simply pour it on grain when fed or slop for hogs. Increases digestibility of grain and hay fed with it 24%. Keeps the animal's digestive organs toned up—the bowels free—makes all stock grow faster and greatly lessens danger from disease.

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To prove to you that **EMPIRE FEEDING MOLASSES** is actually the best and cheapest hog feed you ever used—that it will put on flesh faster than any other feed at a much lower cost; that it is unequalled for fattening steers and sheep; for conditioning horses and making pigs, calves, colts and lambs grow like weeds—we will make you this guaranteed, no risk offer. Order one or more barrels of Empire Feeding Molasses. We will pay the freight charges to your town. Feed one-half a barrel and if you are not pleased—if you don't say it is the best and cheapest hog feed you ever used—send back what is left (at our expense) and we will refund ALL of your money, making no charge for the half-barrel you have used, and pay freight both ways. Could we make a fairer offer?

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Largest Exclusive Distributors of Feeding Molasses in the United States

19¢ a Gal.
In Barrels Freight Paid

East of Mississippi River and North of Tennessee. Proportionate freight allowance to points further West and South.

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You take no risk whatever. We ship freight prepaid in 56 gal. barrels. (No other size sold). Price 19¢ a gallon—\$10.64 a barrel, delivered at your railroad station, freight prepaid. Send draft or money order, or personal check if more convenient. Money back after you have fed $\frac{1}{2}$ barrel if you are not satisfied. Send today. No shipments made less than a barrel—56 gallons.

Veterinary.

Indigestion.—I have a black mare 14 years old that has a cough, hide is dusty, urine milky and thick, mucus surrounding anus and passages are sticky. Her food must ferment, because she seems to fill with gas. G. A. H., Shepherd, Mich.

—Give her 1 oz. ground gentian, and 3 drs. salicylic acid at a dose in feed three times a day. Salt her well and change her feed. She should be well groomed twice a day.

Fistulous Tumor.—I have a horse that has a sore of long standing on tip of shoulder. I have succeeded in healing wound several times, but it fails to stay healed. F. K., Grand Haven, Mich.—Apply powdered sulphate copper by placing a teaspoonful in bottom of fistula, allowing it to remain for two or three days, then apply one part iodoform and five parts boracic acid once a day.

Dropsy—Stocking.—I have a mare 14 years old that has swollen udder, dropsical swelling under belly and one stocked hind leg. She does not go lame and has a good appetite. J. K., Fremont, Mich.—Mix together equal parts ground gentian, ground ginger, ground nux vomica, bicarbonate soda and powdered nitrate of potash and give her a tablespoonful at a dose three times a day. She should have daily exercise, bowels kept open, groomed well once or twice daily and exercised every day.

Articular Rheumatism—Stocking.—I always read the veterinary column and usually find prescriptions for live stock ailments that are helpful to me. I have a ten-year-old mare that is constantly stepping and changing from one foot to the other. She never stands still, but shifts position and her hind legs are stocked. Her urine is thick, but bowels are in perfect condition. If you can tell me of a remedy that will hit her case, I shall appreciate it. F. S. H., Middleville, Mich. Mix together equal parts salicylate of soda, powdered nitrate potash, ground gentian and ground nux vomica and give a tablespoonful at a dose in feed three times a day.

Chronic Looseness of Bowels.—I have a mare due to foal next April that is troubled with a chronic looseness of the bowels and her movements are frequently quite watery. Considerable gas seems to form in bowels and am feeding her 3 quarts dry bran, 1 quart ground oats with hay and corn fodder. J. A. O., Dearborn, Mich.—Give her 1 oz. bicarbonate soda, 1 oz. ground ginger and 2 drs. powdered sulphate iron at a dose in feed three times a day. Feed her oats and well-cured timothy.

Inflamed Eye.—For some time past one of my cows has been troubled with an inflamed eye, but her health seems to be good. Z. M., Wayne, Mich.—Dissolve 40 grs. borate of soda and 40 grs. of boracic acid in 4 ozs. of clean water and apply to eye two or three times a day.

Cow Does Not Come in Heat.—I have a cow coming three years old that dropped her calf April last, but has not been in heat since. I made an examination today and found neck of womb closed tight. What do you advise me to do? W. J. W., Ferris, Mich.—It is usually bad practice to attempt to dilate opening in neck of uterus, for it usually opens when cow is in heat. She will perhaps come in heat next spring. Manipulating ovaries might have a good effect, but work of this kind should be done by a Vet. or a competent herdsman.

Partial Dislocation of Stifle.—I have a cow with stiff and lame hind leg, but after getting her started she appears to walk all right. I forgot to say that a snapping noise can be heard just before she starts to walk. A. T. Z., Wayland, Mich.—The whole trouble is in stifle joint caused by weakness of ligaments, allowing cap to slip out of place. Apply one part powdered cantharides and six parts lard to stifle once a week. She should stand in a position with fore feet three or four inches lower than hind ones. The cap can be pushed into position easily when foot of lame leg is pulled well forward.

Vaginitis.—I have a yearling heifer that was bred a week before Thanksgiving and after she had made this nine mile trip she must have taken cold, for she was stiff and coughing some. I do not believe that she was infected at time of service for my other cow that was served at same time is all right. F. C., Wayland, Mich.—Dissolve 1 dr. permanganate potash in a gallon of clean water and inject her once or twice a day. Give her 1 oz. bicarbonate soda at a dose in feed twice a day. Don't breed her again until discharge ceases.

Hock Lameness.—My six-year-old mare had an attack of lymphangitis one year ago and she was treated by our local Vet., who succeeded in reducing swelling but an abscess formed on outside of hock joint, which broke and discharged pus, but after a while it healed. Some time later the inside of hock opened, a yellow pus flowed, but this discharge soon ceased and leg apparently got well. The hock joint was left enlarged and I have failed to reduce this swelling. A. J., Gd. Ledge, Mich.—Apply one part iodine and 10 parts fresh lard to bunch twice a week.

Worms—Fits.—A short time ago one of my pigs died after having a fit. Have another that is affected the same way. When these pigs would come to trough and after taking first mouthful stagger back, fall over in a fit then get up and go to eating as if nothing had happened. C. D., Clarksville, Mich.—The whole trouble may be the result of worms. Give equal parts fluid extract spigella and fluid extract senna every six hours until bowels move briskly, then cease giving this medicine. One-half ounce is a dose for a hog weighing 100 lbs.

SAVE-THE-HORSE



THE LAME HORSE is never cured whose owner reads and doubts,—BUT FAILS TO ACT—Here is a case in Point.—And what happened to this Subscriber is Taking Place with Thousands.

Letter No. 1 Orleans, Vermont, April 26th, 1912. Troy Chemical Co., Binghamton, N. Y.—Your adv. has given me courage to try again. I have a valuable pacer. Two years ago he went lame. I tried every remedy and Doctors have blistered three times for spavin and twice hip. The symptoms are—etc., etc. I determined to see what you think. HALE MASON.

Letter No. 2 Orleans, Vt., May 2nd, 1912.—I received your letter and book yesterday and believe you are right about its being a bone spavin. I was so encouraged I drove eight miles and bought a bottle of Fred D. Pierce, druggist at Barton, and will closely follow your special instructions. Thanking you for your quick reply to my first letter. I remain, Letter No. 3 HALE MASON.

Orleans, Vt., Oct. 2, 1912.—Perhaps you expected to hear from me before, but I have been waiting to see if any trouble would return after stopping the treatment. I am pleased to say the horse is well. I cannot thank you enough for your interest and the advice you gave. If I had known about it two years ago it would have saved me a lot of money. Yours respectfully, HALE MASON.

Save-The-Horse has stood alone and unique among veterinary remedies for over seventeen years.

Every bottle of Save-the-Horse is sold with an iron-clad contract that has \$60,000 paid-up capital back of it, guaranteeing to permanently cure or refund the money; no matter whether it is Bone or Hog Spavin, Tendon disease or Puffs—nor how aged, serious or complicated the lameness or blemish may be.

But write, describing your case, and we will send our—BOOK—sample contract, letters from Breeders and business men the world over, on every kind of case, and advice—all free (to horse owners and managers).

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Yes, absolutely fired off the place—That's the story of every spreader that tries to match quality with a Galloway. They simply can't touch Mandt's New Gear. Why should you consider any other? Why should you pay dealers' hold up prices for a spreader that can't approach this quality? Then there's my direct from factory price which lets you

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Let me prove it on your farm 30 to 90 days at my risk. No obligations to you. You don't even have to buy if you can't see that every word I say is true. I assume all responsibility. Choose from six sizes. Write me at once. Get my offer and a copy of my latest book "A Streak of Gold" FREE. Contains the boiled down information the great soil experts and thousands of farmers have discovered about manure values. Book worth a good \$10 bill. I send it FREE. Don't hesitate—Mail postal or letter tonight, it will pay you.

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REMEMBER—We carry stocks of all our machines at Chicago, Kansas City, Council Bluffs and Minneapolis—insuring prompt shipment.

Made in 6 Sizes

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10 or more men in every township to receive my special 1913 proposition and price on a Galloway Spreader.

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The harder you work the Louden Hay Carrier and the heavier you load it, the better it shows up. You can't break it down—years of hard service won't send the

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Send for catalog of complete barn and cow stable fixtures—Hay Carriers, Door Hangers, Litter and Feed Carriers, Cow Stalls, Cow Stanchions etc.—also our FREE BOOK on the value of manure and how to care for it.

LOUDEN MACHINERY CO.,
803 West Broadway, Fairfield, Iowa

THE BEST WAY TO UNLOAD HAY

Influence of the Male Upon Egg Production.

That hens lay whether a cock be present or not is of course well known to every poultry keeper; indeed, suburban dwellers are often advised that their hens will lay equally well if deprived of the society of the male, and in view of the frequency with which this opinion is voiced in these days it seems advisable to observe more closely the influence of the cock upon egg production.

The idea that fertilization does not excite egg production seems to have been held by Wright, Piper, and many of the writers of forty or more years ago. In one of his works Wright says: "A cock is useless, as hens lay, if there be any difference, rather better without one and, where eggs only are wanted, his food is thrown away." Again, Piper echoes this in Poultry, published in 1873: "If eggs are the sole object, he (the cock) can be dispensed with altogether, and his food saved, as hens lay, if there be any difference, rather better without one;" and the same opinion seems to have been expressed almost unanimously down to the present day.

On the other hand, Mowbray, a practical and observant old-time writer, apparently with no doubts upon the matter, says: "It must be noted that nothing is more necessary towards success in the particular of obtaining plenty of eggs than a good attendance of cocks, especially in the cold season, and it is also especially to be observed that a cock whilst moulting is generally useless." In a popular standard French poultry book (1885), after discussing the modern economic tenets with regard to the uselessness of keeping cock birds, the view is expressed that when cocks are present "the produce

is more abundant and the eggs larger," and that "the presence of a cock is a necessity among a flock of hens." In another French book on animal chemistry a remark to the following effect is made in the section dealing with fowls: "The presence of a cock is not indispensable to laying, but reproduction is accelerated and regulated thereby."

These opinions, drawn from such diverse sources, are so emphatic that they surely merit serious consideration. In most animals it is generally admitted that the presence of a male stimulates the reproductive instinct, and, even if it were proved otherwise in the case of the domestic hen, it is probable that indirectly, if in no other way, the presence of cocks may have a beneficial influence upon the other denizens of the poultry yard. A vigorous cock does not allow his consorts to mope and languish. He is continually calling them round him to investigate some real or imaginary titbit; he leads them far afield in search of dainties and by his exertions no doubt promotes a physical condition entirely lacking in hens deprived of so stimulating a presence.

If for no other reason than that of the improved health and consequent productiveness of hens tempted to take a certain amount of exercise, it is likely that the presence of an adequate number of cocks is extremely desirable. In spite of the above opinions it is also far from certain, and by no means proven, that the male has no more direct influence in promoting egg production, or that it is economically unsound to keep cocks among the hens when the only object is the filling of the winter egg basket.

Canada. W. R. GILBERT.

FACTORS ESSENTIAL TO SUCCESS IN SQUAB RAISING.

A great deal has been written, of late years, on the subject of squab raising. Much of this has been in the nature of advertising matter, hence, must be accepted by the reader with due allowance. Having been engaged in the business, on a small scale, for several years, it has occurred to the writer that the statement of a few plain facts may prove helpful to beginners, and of interest to readers in general. Having gone out of the business, the statements herein contained may be considered as plain, unvarnished facts from a disinterested party. In the main, only general facts and principles will be stated, as the details of the industry are not essential to the purpose of this article.

In considering the squab industry from the standpoint of financial success, two important factors must be taken into account: First, good stock; second, a good location. In regard to the first requisite, the best and briefest advice I can offer is to start with young, healthy, mated Homer pigeons obtained from some reliable party. Regarding location let me say that nearness to a good retail market, where the squab raiser may reap the harvest of the middleman by selling directly to the consumer, should be sought. In addition to this, if the business can be carried on in connection with a small farm upon which much of the required grain may be grown, the chances of success will be greatly enhanced. With such a location, the profits of the middleman, both in buying grain and in marketing squabs, go, in the main, into the pocket of the squab raiser.

In conducting the squab business in a small Michigan town the writer encountered two serious obstacles to adequate returns for labor expended. In winter, when squabs are high, shipment to distant points is easy and the business would be profitable were it not for the extremely high percentage of mortality among the squabs, caused by the chilling of eggs and young birds. In summer, the percentage of mortality is small, but the market price is so low that the profits are cut to a low figure. Notwithstanding these drawbacks, however, the writer was fairly successful for several years, until an advance in the price of grain cut the profits to a much lower figure.

In regard to the feeding and care of pigeons, these general principles may be laid down: Plenty of fresh air, cleanliness about the loft, plenty of clean grain and pure water. In the main, corn, either cracked or whole, and red wheat, afford the required grain for feeding. By looking after these general principles the squab raiser need not fear disease among his birds.

Although, in this section, 10 people who

embark in the squab-raising business fail where one succeeds, this cannot be regarded entirely as the fault of the business. Too many who take up the work expect to reap large profits without the expenditure of much money or much labor. He who undertakes to raise squabs as a business must make up his mind to work for every dollar he receives. With the right location, and proper management, squab raising may be made profitable in Michigan. A plant of a size which enables the owner to do a large share of the work, stands the best chance of yielding profitable returns.

Hillsdale Co. J. A. KAISER.

FEEDING BEES IN SEVERE WEATHER.

There is positively no way of feeding extracted honey or sugar syrup to bees during cold weather without endangering the welfare of the colony, and in many cases causing death.

Late in the fall, after the honey flow, bees cluster in a compact mass for the winter, usually on the central combs and remain in this way until settled weather in the spring or until brood rearing is well established. Giving the liquid causes them to break the cluster and scatter over the combs in order to store it in the cells. The increased heat from the excited bees causes them to sweat. When clustered and quiet again everything is damp and clammy and if the weather becomes severely cold may cause them to freeze. Besides it is easier to keep a dry room warm and comfortable than it is a damp one.

Honey dough is no longer considered safe as a winter food, simply because it becomes soft from the moisture of the bees, running down over them, daubing and actually killing the helpless toilers. Honey dough is made by kneading extracted honey with powdered sugar and is intended mainly for using in queen cages when sending queen bees through the mails.

There is a way of feeding in severe weather, however, and that is by making hard candy and placing it directly over the cluster, on top of the frames. It may seem impossible for bees to live on candy as hard as a brick, but to try it is to be convinced. The moisture from the bees dissolves it so slowly on the under side that it constantly provides food until entirely eaten up. Use only granulated cane sugar. Add a little water to the sugar, set on the stove and stir constantly but slowly until the sugar is dissolved. To know when it is done drop some of the hot wax into a cup of cold water. When it becomes brittle pour in to shallow pans and do not stir. I find the common bread pans, holding two loaves, of convenient size, which makes a brick about 1½ inches thick.

Ohio. G. BEARD.

A GOOD BREAKFAST

Some Persons Never Know What it Means

A good breakfast, a good appetite and good digestion mean everything to the man, woman or child who has anything to do, and wants to get a good start toward doing it.

A Mo. man tells of his wife's "good breakfast," and also supper, made out of Grape-Nuts and cream. He says:

"I should like to tell you how much good Grape-Nuts has done for my wife. After being in poor health for the last 18 years, during part of the time scarcely anything would stay on her stomach long enough to nourish her, finally at the suggestion of a friend she tried Grape-Nuts.

"Now, after about four weeks on this delicious and nutritious food, she has picked up most wonderfully and seems as well as anyone can be.

"Every morning she makes a good breakfast on Grape-Nuts eaten just as it comes from the package with cream or milk added; and then again the same at supper and the change in her is wonderful.

"We can't speak too highly of Grape-Nuts as a food after our remarkable experience." Name given by Postum Co., Battle Creek, Mich.—Read the little book, "The Road to Wellville," in pkgs. "There's a Reason."

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

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KILLS LICE AND MITES

DISINFECTS the Hen House, Brooder and Incubator. CURES Roup, Scaleg Leg, Canker, Cholera. PREVENTS White Diarrhoea.

Endorsed by 50 Experiment Stations

Every person interested in the causes and symptoms of all poultry diseases should read CHICKEN CHAT—Free if you ask for it. It names diseases, and suggests methods for curing them, and offers ideas for preventing contagion and infection.

The most eminent poultry authorities in the world have contributed their stories to this book. An interesting report is made by the Ontario Government poultry expert, Professor Graham, in regard to his successful handling of incubators, and the prevention of white diarrhoea in his hatcheries.

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At dealers 8 oz., 25 cts; Quart, 50 cts; Gal., \$1.50

Postpaid 8 oz., 35 cts; Quart, 65 cts; Gal., \$1.50

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Layers are payers. The more eggs, the more profits. It is the number of eggs, not the number of hens that determines the season's income. For lots of eggs use

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Makes hens lay because it puts them in condition to bear the strain of egg production.

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During the winter months much loss is caused by colds, catarrh and roup.

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Is the one sure pre-entive and cure

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125 Egg

125 Chick Brooder Alone \$4.00

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COLUMBIA Wyandottes, Winners at Chicago, Grand Rapids, South Bend and St. Joseph. Stock and eggs RICHARD SAWYER, Benton Harbor, Michigan

BARRED ROCK COCKERELS of the Bradley strain. Laid last, A. A. PATTULLO, Deckerville, Mich.

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Silver, Golden and white Wyandottes, a fine lot of young stock. New circular January 1st. Browning's Wyandotte Farm, R. 30, Portland, Mich.

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TREES, Big Lots Our Specialty

Buy Direct From the Growers and save agent's profit of 50% or more. You also make a great saving by ordering in big lots. Club with your neighbors and get the reduction in price.

CHERRY TREES \$6.90 PER HUNDRED
All fine, 2-year, 4 to 5 feet trees. May be all of one variety or of four varieties. No less than 25 of one variety. No discount.

Our stock is grown in Danville where San Jose Scale and other tree diseases are unknown. Our trees are all full rooted, carefully selected, and guaranteed variety true, or money back.

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Clear profit. Real money. Gilbertson's Grandpa's Pride Globe onions last season brought him a profit of \$450 an acre. You can also make big profits. Investigate now.

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Fruit in fall of first year and in spring and fall of second year. Big money-maker! 500 plants set in May yielded from Aug. 23 to Nov. 11 nearly 400 quarts which sold for 25c per qt. The past season (1912) we had fresh strawberries every day from June 15 to Nov. 15! We are headquarters for

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Big stock of best hardy varieties at very low prices. Plum Farmer, Idaho and Royal Purple Raspberries, also Blackberries, Gooseberries, Currants and Grapes. 30 years' experience. Catalogue free.

L. J. FARMER, Box 360, Pulaski, N. Y.

New CORN BELT Oat

CANNOT LODGE
—is a record breaker—bred to suit conditions in the Corn Belt. Positively the largest berried and heaviest yielding oat in the world. Strongest straw—thinnest hull and matures 10 to 14 days earlier than any other. Grain white and wonderfully rich in protein and oils.

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Send 25c for half pound Sample and Coupon good for 25c worth of our pedigreed seeds. Gartons "Book of the Farm" free on request. GARTON-COOPER SEED CO., 36 First Street, SUGAR GROVE, ILL.

120 BUSHELS TO THE ACRE

BUY TREES from the Grower

500,000 Apple, Pear, Peach, Plum, Cherry, Quince and other fruit and ornamental trees. We sell from catalog only and SAVE YOU HALF AGENT'S PRICES. Our prices are lowest consistent with best quality. Members of our firm personally superintend the budding and growing of our stock, and we guarantee it for quality, variety, hardiness, and to be free from Scale. Write for our FREE 1913 Catalog now and save money. DETON, WILLIAMS & DETON, 40 Elm Street, Danville, N. Y.

Strawberry Plants Free

Your name on Postal will bring free, 6 plants of the famous Bradley Strawberries and our 40-page Book of instruction "How to Grow Great Crops of Strawberries" also Chapter on each Raspberries, Blackberries, Grapes, Gooseberries, Asparagus and Rhubarb, and fruit trees. All about the Fall bearing Strawberry. Write today. Postal card is all that is needed.

BRADLEY BROTHERS,
Box 23, Makanda, - - Illinois.

Horticulture.

IS ORCHARD RENTING PROFITABLE?

It has recently been stated that since bonanza prices for apples are no longer in prospect for the future that orchard renting will not be profitable. Two dollars and a half was considered the lowest price per barrel that a renter could afford to raise apples for and make any profit. Two dollars a barrel was considered profitable for the orchardist who owned his orchard.

From the above it would seem that owners of orchards have such advantages that the renters have not, that they can carry on the work much cheaper. It is conceded that owners can do orcharding cheaper than renters, but when the real advantages are considered the difference should not be that of profit on one hand and loss on the other. There is no reason why renting should not still be profitable.

We are often liable to use an entirely different system of figuring in determining the financial results of the owner's orchard than we would in the case of the renter. The owner says: I have my team that wouldn't cost me anything, and I can haul my barrels at my spare time, and do a lot of the work in the orchard myself. When he enters figures in the cost column of his orchard accounts he forgets all about his team, the hauling of the barrels and his own work, and many other things that he would likely have to pay cash for if he were renting. Is not his team worth as much as that of anyone else, and is he not worth as much as the hired man? Then why not credit himself and his team with all they have done to the orchard?

And then the rent; that is saved to the owner. The rent often amounts to just a little more than the interest on the money the owner has invested in the orchard. Does the owner figure interest on investment when he counts up his orchard profits? Too often the costs figured are only those for which cash was paid. In all cases to be fair to orchard and man both, the equivalent of cash that the man or his capital has produced should also be noted and at market prices.

One of the true advantages that the owner has is that of permanency. He can arrange facilities of convenience in carrying on his work. He can arrange proper places for storage of things necessary in orchard work that the short-leased renter could not profitably do. He can therefore do things in less time and more economically. But the differences are not enough to make renting unprofitable.

Many have found orchard renting unprofitable. This, however, has been mostly due to lack of judgment or over-enthusiasm. Those who lacked judgment generally got orchards that could not be made profitable during the life of their lease, or got them with too many varieties in it which would probably never be profitable.

The over-enthusiastic generally bite off more than they can chew. They can not let an orchard that looked good to them go. Their enthusiasm is greater than their ability. With too many trees or with orchards too far apart all of the things that require personal supervision can not be attended to. It takes more than one man to stop the leaks in a large boat while he might easily keep a small one water tight. A thousand trees might bring a good profit, while ten thousand show the largest figures on the wrong column.

Renting is not preferred to owning but it is the best method of getting started that the orchardist of limited capital has. With the use of good conservative judgment, it should be a success even with apples at two dollars a barrel.

Van Buren Co. F. A. WILKEN.

EXPERIMENTS IN THE CONTROL OF GRAPE ANTHRACNOSE.

Anthracnose of the grape, or bird's eye rot, caused by a fungus, is a disease of considerable importance on certain varieties of grapes grown in the eastern United States. While it does not seem to attack the Concord, which is the most extensively grown of American varieties of grapes, most of the other wine and table grapes are very susceptible to anthracnose. Anthracnose affects practically all the green parts of the plant. On the green shoots it causes cankers. On

the grape berries it first appears as light-brown spots, which rapidly become darker and are soon surrounded by a circular bright-red zone, which, as seen against the green background of the grape, presents the very striking appearance that gives the disease the name of "bird's-eye rot." The berries in later stages of the disease shrivel and dry up.

Very little has been done in America toward working out the best method for preventing the disease, and what little has been done has been along the line of European practices. In 1910 Lon A. Hawkins, scientific assistant, fruit-disease investigations of the Bureau of Plant Industry, began experiments to see whether the disease could be controlled in this country by the use of iron sulphate and sulphuric acid in water which is employed extensively in Europe. It was also considered worth while to experiment with applications of other fungicides and to try the effect of summer sprays in comparison with the iron sulphate and sulphuric acid treatment. The experiments were conducted at Lawton, Mich., in a vineyard of Champion grapes. In this vineyard in 1909 about two-thirds of the fruit had been destroyed and the young wood seriously injured by anthracnose. The vines selected for experimentation were a block of about 600 where the disease had been the most severe.

Of the different mixtures used, the self-boiled lime-sulphur is perhaps the least promising. It burned the foliage somewhat, and there were more diseased fruit and wood in the plot sprayed with this mixture than in that sprayed with Bordeaux mixture. The fungicides used in treating the dormant vines all seemed equal in efficiency. For commercial purposes, however, the ease with which the mixture may be prepared must be taken into consideration. From this viewpoint the concentrated lime-sulphur seems to be the best, as it is easily prepared and can be applied with any good sprayer.

According to Mr. Hawkins anthracnose of the grape was controlled in the experiments by pruning out the diseased wood and applying any one of four different treatments to the dormant vines. The fungicides used successfully on the dormant vines were two concentrations of the iron sulphate and sulphuric acid mixture, a four per cent solution of sulphuric acid and a concentrated lime-sulphur solution (1-10). A careful pruning out of the diseased wood and treatment with summer sprays of 4-3-50 Bordeaux mixture reduced the damage from disease to practically nothing. In contrast to the results from the treatment the loss from disease on the control plot was 10 per cent and 12.2 per cent. In 1912 the loss on the control plot was 10 per cent of the fruit. In addition to the diseased fruit the young shoots and foliage in the controls were considerably injured, while the treated plots were practically undamaged.

Mr. Hawkins states that in combating anthracnose it would probably be advisable to combine the treatment of the dormant vines with the use of the summer spray, especially since black-rot or downy mildew of the grape is usually present. The experiments conducted by the Department of Agriculture are described in Circular 105 of the Bureau of Plant Industry which will be issued by the Department of Agriculture in a couple of weeks.

A LARGE SELLING ORGANIZATION.

Although the growers' associations of Grand Junction, Col., have had a successful history so far as being able to dispose of the crops of the members, yet it is true that certain difficulties have arisen especially between the different managements. In order to give the growers a larger service and overcome the friction from competition between the different organizations, the horticultural society of that state and the state board of horticulture will attempt to establish a general selling agency which has for its purpose the distribution of the entire fruit crop of the state and of Utah as well. The experience of the local organizations should go far toward making this larger undertaking successful.

Some cabbage and lettuce growers follow the practice of purchasing their seed a year in advance for their main crop in order to give a chance for harvesting some of the plants before the main lot is sown.

HOTBED CONSTRUCTION AND MANAGEMENT.

The frame for a hotbed may be made of ordinary lumber one inch thick and 12 inches wide, nailed to a piece of 2x4 at the corners. The frame should be from six to eight inches lower at the front or south side. Of course, the frame can be made to serve the purpose with most any kind of boards, but, if intended to be permanent, plank is much better than boards, as it lasts much longer; is not so easily warped by the heat within and the cold from without, and can be constructed so as to be taken apart and stored if desired when not in use, and thus prolong their life. If the frames are placed on the level ground the soil should be dug out 20 inches deep to make space for a sufficient amount of fermenting material. The soil dug out can be banked around the outside of the frame, thus conserving the heat and keeping out frost in severe weather.

It is the best practice to have all the work done in the early winter, except putting in the heating material, thus saving much hurried labor at a time when labor is pressing. Here I am speaking of hotbeds which are heated from stable manure which contains a good per cent of litter.

The sash for hotbeds is usually 3x6 feet, and consists of sections of glass, varying in size, depending on the price, construction, etc., laid in putty and fastened with triangular zinc points. The sash can be bought for from \$2 to \$3 each, but will last for years when properly handled, but improperly handled, they are the most perishable part of the hotbed, and will rapidly deteriorate unless carefully handled.

The time for starting the hotbed depends very much on what is to be raised, and the locality. With me, the hotbed is often started the latter part of February, and I have a few times had it going early in February when early tomatoes are wanted, and wanted early, or some other extra early crop wanted. When the hotbed is started at such early dates something in the form of old mats, old boards, or straw, or some other litter should be provided to cover the bed when the weather is very cold and the sun is not shining. Thus the plants will be protected. If such is not provided and used when the weather gets very cold, as I have seen it during February, something is going to be hurt and a crop cut in half.

Preparation of the Bed.

For a bed of this style the best fermenting material is fresh stable manure. I prefer it obtained from horses fed on grain, and mixed with a liberal amount of straw. If it is collected from day to day, fermentation is aided by piling it up loosely in conical masses, turning it over once or twice to keep from overheating and becoming fire-fanged. When the heating has become general it is ready for use and can be mixed with one-third its volume of leaves, preferably oak, tramping and mixed well down, and especially at the corners, as it is being put in. For ordinary vegetable plants it can be filled to within about four or six inches of the sash. This lessens the space to be heated and brings the young plants close to the glass.

In a day or two after the sash has been put on, another process of fermentation will begin, resulting in a settling of the material, which will continue to give off a gentle heat for over two months. The heating material should be covered with three or four inches of rich soil, preferably that from the chip yard, or the rich soil from an old hotbed which contains much organic matter. The soil then is capable of holding a great deal of water, thereby lessening the labor and providing against drying out.

The surface thus formed should be left for a day or two to settle, when it can be raked over level or on the same slope as the sash, bringing all parts of the soil within a uniform distance of the sash. Now it is a good plan to insert a thermometer the depth of the soil, and if the thermometer does not exceed 85 degrees it is ready for the seed, which will sprout readily if of good quality, and grow rapidly and make strong plants.

R. B. RUSHING.

Farmers should take advantage of any fine days that may occur during these remaining months of winter to prune the bush fruits. Grapes, currants and gooseberries especially, are ready for the pruning shears whenever it is possible to do the work and if done now one barrier will be removed for the production of a successful crop this coming summer.

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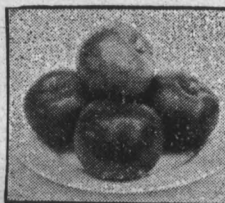
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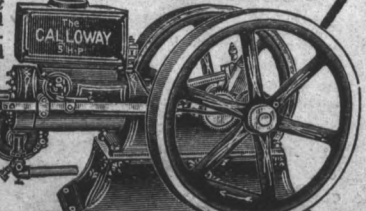
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39 to 45 Congress St. West, Detroit, Michigan.

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New York Office—41 Park Row.

CHICAGO OFFICE—600 First Nat'l Bank Building.

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DETROIT, JAN. 25, 1913.

CURRENT COMMENT.

When the Michigan legislature last week proceeded to the election of a United States Senator in the manner prescribed by law, there was a notable absence of the scenes enacted at the state capitol on many former occasions of the kind. The representatives of the three political parties in the legislature each and every one cast his vote for the candidate for the United States senatorship for whom the electors of his party expressed a preference in the preferential primary, which named party candidates for this office. Every one of the 132 members of the legislature followed the course laid out for him by the electors of the political party which he represented and, there being a republican majority in both houses, Senator Smith was quietly named for re-election, the other party candidates not even being present.

The imagination need not be drawn upon to depict the scenes which might have been enacted had a party candidate been chosen in caucus as was the case before the senatorial preferential primary was put into effect in Michigan.

Attention need only be directed to a scene enacted in Wyoming this week when a riot occurred in the house of representatives of that state and a disgraceful physical encounter took place between the speaker and the speaker pro tem, representing different factions in the senatorial contest.

While Michigan has been fortunate in the past in having but near scandals under the old method of electing senators, no one who witnessed the legal ratification of the electors' choice in Lansing last week could do less than congratulate the people of Michigan upon the fact that in this important respect legislation has been removed a long step from mere political considerations in Michigan.

Of course, so long as we have government by parties, than which no better method has yet been advanced, political considerations will continue to be a factor in shaping the course of legislation, but with the United States senatorial contest eliminated as a factor in the selection of legislative candidates and with all parties pledged to further election reforms, such considerations will be more in evidence in attempts to secure party credit for beneficial legislation than otherwise. This kind of mixing of politics and legislation may be helpful in its results, rather than otherwise, in the directing of legislation along lines which will meet with the approval of the thinking public.

So far as legislation itself is concerned, nothing has yet been accomplished at this session. The time has been devoted to the completion of organizations, the settlement of contests, the confirmation of

appointments and the introduction of bills, of which over 200 were introduced last week. From this time forward, however, the session will become more interesting from the standpoint of the citizens and an attempt will be made to follow the more important legislative propositions of peculiar interest to the farmers of the state in future issues.

A recent report of the Michigan Farm Bureau of the Census on Products.

Michigan farm products contains some interesting data regarding the total value of Michigan's farm products and the relative importance of the different divisions of products. The total value of farm crops in Michigan in 1909, the year for which the census figures were taken, was \$162,005,000. Of this amount 87.6 per cent was contributed by crops in which the acreage as well as the value was reported, the remainder consisting of by-products, as straw, garden and forest products, etc., for which no report was made.

The total acreage on which this value of farm crops was grown in 1909 was 8,198,578, or 63.9 per cent of the total of improved lands in farms, the balance of the improved lands doubtless consisting of pasture, farmyards, grounds, etc., also those occupied by orchards and vineyards of which the acreage was not taken. Of the total value of crops in 1909, 43.5 per cent was contributed by cereals, 22.2 per cent by hay and forage crops and 10 per cent by potatoes and other vegetables. The remaining 24.3 of the total consisted of seeds other than cereals, of fruits, nuts and forest products.

Since one of the most important cash crops in Michigan is potatoes some figures given relative to this product are of especial interest. In 1909 the total acreage of potatoes and other vegetables combined was 456,368 and their value \$16,201,000. In collecting the census data a division was made between farms which make the raising of vegetables a business of some importance, having produced in 1909 a value of \$500 or more of this class of products, and other farms which grow a lesser amount, or on which this class of products are raised mainly for home consumption. In 1909 there were 1,401 farms in the first class mentioned, containing about one-eighth of the total acreage and contributing about one-fourth of the total value of such products. The average acreage in vegetables on these farms was 8.5.

This report also shows that the small fruit industry in Michigan is one of considerable importance. In 1909 the value of strawberries was \$1,000,788 and of raspberries and blackberries \$695,019, which was, however, a marked decrease in both total acreage and production of these small fruits in the decade from 1899 to 1909. In 1899 there were a total of 29,197 acres in small fruits in Michigan, while in 1909 there were 21,419 acres, a decrease of 26.6 per cent. There was an even greater decrease in production and value of the crop. In 1899 there were 40,168,000 quarts, valued at \$2,029,000 as compared with 27,215,000 quarts in 1909 and a total value of \$1,680,000.

Sugar production in Michigan, was, however, largely increased in the decade, the total value of sugar beets produced in 1909 being \$4,014,000 as compared with \$877,800 in 1899. There was also an increase in the value of maple sugar and syrup from \$101,000 in 1899 to \$334,000 in 1909.

In the production of orchard fruits there was also a great increase during the decade, this increase amounting to 54.4 per cent. The total quantity of orchard fruits produced in 1909 was 15,220,000 bushels valued at \$9,021,000. Of this amount apples contributed about four-fifths in quantity and peaches and pears most of the remainder. The value of orchard fruit increased from \$3,676,000 in 1899 to \$9,021,000 in 1909, while the value of grapes increased from \$503,000 in 1899 to \$1,531,000 in 1909.

A feature of interest relating to the value of the total production of crops in 1909 as compared with that in 1899 is the very great increase in the value of the crops amounting to 74.9 per cent. That this increase was mostly due to the higher prices prevailing in 1909 is proven by the fact that the increase in the percentage of the total acreage in the crops was only 5.9 per cent and that the greatest increase was in hay and forage, and seeds other than cereals, and the greatest decrease in the acreage of cereals which, as noted above, constitute more than two-fifths in value of all crops produced in the state. These figures are incontestable proof of the prosperity of Michigan

agriculture as compared with previous years.

HAPPENINGS OF THE WEEK.

National.

Fully 400 German workmen of Philadelphia, have banded together and will incorporate for the purpose of building a home which they themselves will occupy during their declining years.

The Illinois Bankers' Association endorsed the movement to establish vocational schools independent of the regular school system, at their conference at Chicago the past week.

The strike of the shirtwaist makers of New York continues. Meetings have been held between representatives of the two sides but nothing definite was accomplished. The strike affects 129 shops and about 30,000 operatives are out of employment. There was talk last week of extending the strike to Chicago.

The Federal Child Bureau of Washington, imparts the surprising information that 300,000 babies are lost annually in the United States, half of which might be saved through the use of modern scientific methods.

A body of Ute Indians are defying a Colorado posse of 100 men who are attempting to arrest one of the Indians. The Indians are strongly entrenched in the mountains and declare they will fight to the end rather than give up their comrade.

The court having in charge Lieut. Becker, of New York, charged with the murder of Herman Rosenthal, has been asked to set aside the verdict on the ground that one of the jurors was seen twice near his own home at Bedford Park, during the progress of the trial. Justice Goff has declined to state what attitude the court will take in the matter.

Two New England states will vote for United States Senators this week. They are New Hampshire and Rhode Island. It is conceded that Judge Colt, republican, will be elected in Rhode Island on the first ballot. In New Hampshire there are 13 candidates, one democrat and 12 republicans.

James Davis, once prominent in legal activities in Michigan, died at his summer home in Irvington, Alabama. He was at one time a member of the Lower House of the Michigan Legislature from Kalamazoo.

Farmers and business men of Gratiot county are protesting against the telephone service of that county and are petitioning the state railway commission for authority to build an independent line to serve the petitioners and others.

The great automobile show of New York city continues to be popular and record attendance is reported. This week auto trucks will have the consideration of the public.

It is apparent from reports that the plan of giving the Filipinos their independence at the present session of Congress will not be carried out but will probably be considered a year hence.

It is estimated that largely through the work of the Public Health Commission of New York the death rate for that state has been reduced 5,000 during the past year.

George R. Smith, father of Senator William Alden Smith, of Michigan, died at Santa Anna, Cal., where he has been living for a number of years.

Something of a surprise was caused by the announcement of Attorney-General Wickersham that the telephone and telegraph "trust" will not be prosecuted under the Sherman anti-trust law but will be turned over to the interstate commerce commission for investigation and action.

The New York State Assembly in session at Albany, Monday, passed a resolution with only seven dissenting votes, proposing an amendment to the state constitution permitting women to vote.

As the result of a blizzard in the Wood River district of Idaho trains are stalled, wires are down and live stock is perishing.

Foreign.

Manufacturers are taking new interest in the newly organized Republic of China where they declare new conditions are opening up a wide market for American manufactures. The automobile trade especially anticipates a rapid increase in business from that section of the world.

On January 19 King Victor Emmanuel, of Italy, interviewed representative detachments of the army which participated in the Italian campaign at Tripoli.

The program of the new Spanish premier, Count Alvaro de Romanos, is declared to be very liberal and includes many progressive ideas.

The House of Commons of the British Parliament passed the Irish Home Rule Bill on January 16, by a majority of 110. The measure will now go before the House of Lords. It is expected that the measure will find greater opposition here than it had in the House of Commons. However, if it is vetoed by the Lords and passed by the Commons at two succeeding sessions it will become a law with the consent of the King.

The Cuban government refuses to ratify the treaty with the United States authorizing this country to enlarge the naval station at Guantanamo until the controversy over the Isle of Pines is disposed of.

Matters concerning Turkey and the Balkan states are held in abeyance at present while the Turkish government considers proposals of the Balkan plenipotentiaries. It is apparent that Turkey is anxious for the powers to intervene inasmuch as a conference with the British foreign secretary was had by Rechad Pasha, Turkey's representative, with that object in mind. There is impatience noted among the peace envoys and they do not hesitate to convey the idea that they will not permit Turkey to delay matters longer than a week.



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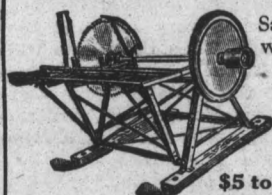
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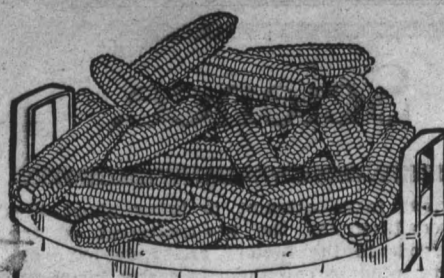
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CLUB DISCUSSIONS.

Have New Song Books.—The Charleston Farmers' Club was very pleasantly entertained by Mr. and Mrs. George Jenkins on January 11. After the bountiful picnic dinner was served, the Club was called to order and in the absence of both President Hagelshaw and Vice-president Perry, Mrs. A. P. Simpson acted as president pro tem. Following the business meeting, the Club members practiced several songs from their new song books, under the leadership of Mrs. L. L. Joy. Mr. Joy accompanied on the violin. Miss Perry, of the Western State Normal School, at Kalamazoo, gave a short talk on "School Lunches for Children," which was very much enjoyed and appreciated by those present. Mr. and Mrs. L. J. Bradley have invited the Club to meet with them in February.—Clara Palminter, Reporter.

The Annual Meeting of the Hadley and Elba Farmers' Club was held at Home Farm with Mr. and Mrs. C. A. Bullock. After a sumptuous dinner President R. J. Pierson called the meeting to order and the election of officers followed the regular opening exercises. Mr. Pierson emphatically declined a re-election and B. L. Snook was elected in his stead; vice-president, C. A. Davenport; secretary, Mrs. C. P. Johnson; treasurer, Mrs. Carrie Snook, were re-elected to their respective offices. After the election of different committees on arrangements for Farmers' Institute, programs, etc., Mrs. Norma Riley gave an interesting report of the annual meeting in Lansing in December. In spite of inclement weather the attendance was good and all declared Mr. and Mrs. Bullock model entertainers.—Mrs. C. P. Johnson, Sec.

Add Several New Members.—The Hartland Farmers' Club, of Livingston county, was royally entertained at the pleasant home of Dr. and Mrs. Cooke in Hartland. Chicken-pie and everything that goes with it to make up a fine dinner, was served. After all had feasted the president, H. W. Clark, called the meeting to order. After singing "America," Rev. Porter delivered a prayer, followed by a program consisting of musical and literary numbers. We received four new members on our Club list, and adjourned to meet with Mr. and Mrs. C. H. Lemen, in Hartland, the first Saturday in February.—Mary E. Openo, Cor. Sec.

Have Oyster Dinner.—The Rives and East Tompkins Farmers' Club met in January with Mr. and Mrs. Wm. Jones. About 75 were present to partake of the excellent oyster dinner. The meeting was opened by singing "America," followed by prayer by Chaplain Severance. An excellent literary and musical program was rendered. Then followed an explanation of the parcels post system by Wilbur Eckerson. The question box was then opened and resulted in a motion that we meet earlier and get through with the business part of the meeting before dinner. The meeting then adjourned until February 1.—Cor. Sec.

A Prosperous Outlook.—The first meeting in the new year, of the Wixom Farmers' Club, convened at the K. O. T. M. hall in Wixom, entertained by Mr. and Mrs. B. T. Nicholson and Mr. and Mrs. R. D. Stephens. A fine day and good sleighing brought out a large crowd. After the usual good dinner and the social hour we were called to order by the president, and the following officers were elected for the ensuing year: President, B. T. Nicholson; first vice-president, D. Gage; second vice-president, J. Bishop; recording secretary, Miss Neva Kinney; corresponding secretary, Mrs. R. D. Stephens; treasurer, Charles Kinney. A superintendent and a board of directors were elected to make arrangements for our Club Fair, which will occur in the month of October, 1913. The program was good, consisting of several selections of instrumental music and recitations. The Club was very highly entertained by Mr. L. D. Lovewell, of South Lyon, who gave us a brief but interesting and instructive account of his recent trip through the south, having visited the battle fields of Chickamauga, Missionary Ridge and other places of historic interest. Mr. Lovewell has traveled extensively, having been in 33 states, also abroad, and he always brings back a large fund of interesting and instructive information. The Club begins the new year with bright prospects, both socially and financially.—Mrs. R. D. Stephens, Cor. Sec.

COUNTY ASSOCIATION MEETING.

The annual meeting of Shiawassee County Association of Farmers' Clubs will be held in the Corunna M. E. Church on Friday January 31, commencing at 10:00 a. m. A good program has been provided, including the following topics: "Are we living in an artificial age?" Leo C. Reynolds; "Dairying for profit," Geo. Cole; "State needs and future prospects," A. L. Chandler; "Glimpses from my window seat," Miss Stella Patter; "Life as I find it, humorous and otherwise," Floyd Owen; "The most crying need of the day," Mrs. F. W. Stiles; "The Holstein cow and her future," J. Fred Smith; "Our yesterdays," Mrs. W. C. Omyon; "Man's view of woman's education," Prof. Nye, of M. A. C. The program will be pleasantly interspersed with literary and musical numbers. Dinner will be served by the ladies of a local society in the church parlors.



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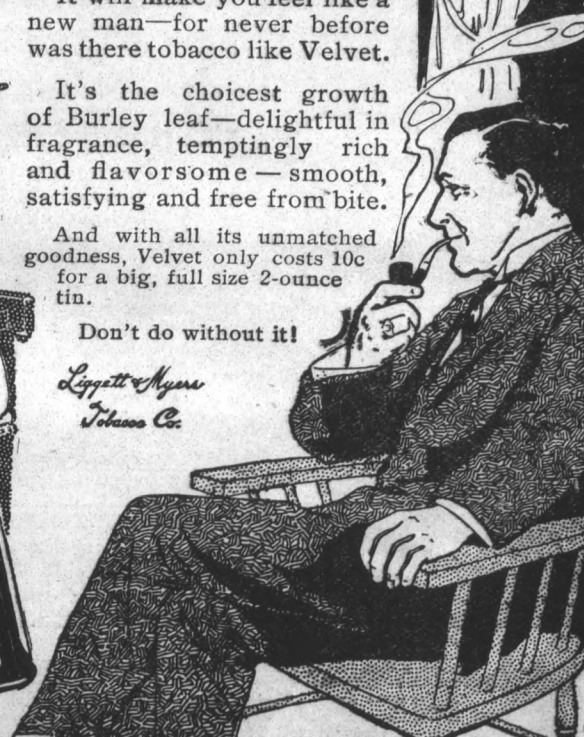
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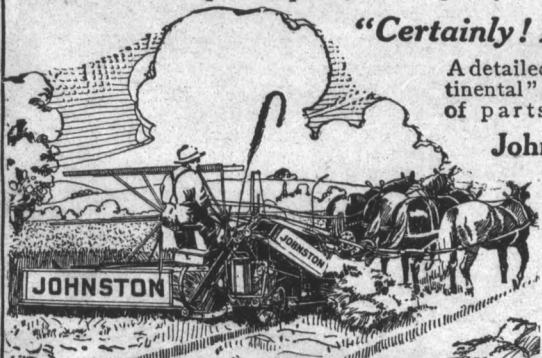
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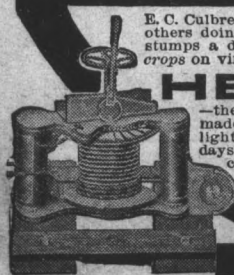


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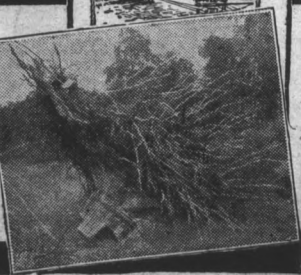
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Free Book



Practical Science.

CEREAL BREAKFAST FOODS.

BY FLOYD W. ROBISON.

The inconsistencies of our modern diet, especially as it seems to affect the health of the urban population, has led to the exploitation of various sundry articles of food which are designed to correct some real or fancied deficiency in the diet. Perhaps the most pronounced and remarkable example of this condition is shown by the number and kind of so-called breakfast foods which have been placed on the markets in recent years. Michigan has been called the "Mecca of the Breakfast Food Industry," and the success of these various new products seems to have been gauged largely by their proximity to the city of Battle Creek.

Oat Meal the Original Breakfast Food.

The old-fashioned and ever popular breakfast foods were known as porridges and of the breakfast porridges the most familiar and popular example is the regulation oatmeal or, as it became in later years, rolled oats. This product depended upon its attractiveness from the standpoint of palatability and general adaptiveness to the diet. It was by no means unique in any respect and it has not been necessary to encourage its use by the exploitation of any real or fanciful scientific reasons. Rolled oats, or oatmeal, finds its position in the dietary in exactly the same way that potatoes, meats, breads, etc., find their position. Not so, however, with the modern breakfast foods.

The Excuse for Prepared Breakfast Foods.

We say, due to the inconsistencies of modern diet, these so-called prepared breakfast foods have come into more or less general use. From time to time we have emphasized the well known fact that by far the major portion of human ills are due to malnutrition brought about through in-correctness in diet. Too heavily concentrated foods, coupled with the sedentary life which many people in the cities lead, has brought about irregularities in the digestive functions. To correct these evils was the primary mission of the prepared breakfast foods. To the best of our knowledge the credit for the inauguration of the breakfast food movement belongs to Dr. J. H. Kellogg, of the Battle Creek Sanitarium, an institution originally of a semi-religious nature connected with the Seventh Day Adventists sect. The handling of diseases due to disturbances of digestion has reached a very successful stage in the Battle Creek Sanitarium, and the method of preparing of especially cereal foods in this institution seemingly called for the commercial exploitation of these products.

The craze, if we may call it a craze, for these products, rapidly, however, spread from the initial point, until within a comparatively short time they became so common among food products that their origin was lost sight of. Most of these breakfast foods have depended for their merit upon the change which the starch of the raw grains has undergone. The theory for this change is, briefly, as follows: Depending upon the supposition that many people were unable to properly assimilate raw cereals in which the starch had been unconverted, it was conceived that by changing this starch through the process of malting the first step in the process of digestion within the body could be performed outside the body. The success attending the use of such a product indicated that at least in many cases this first step in digestion was one that created the havoc.

The Predigestion.

The first act of digestion in relation to starchy foods is the conversion of the starch into soluble carbohydrates. As is well known, starch is insoluble in water. Sugar, however, is soluble in water and before starch in the system can be utilized by the system it must be rendered soluble, the same as all other food constituents. Nature's method of rendering starch soluble is by converting it into sugar. This sugar is maltose and is identical with the sugar produced by artificially malting grains. If starch be taken into the mouth it becomes acted upon at once by the diastase ferment in the mouth and depending upon the length of time it is kept in contact with the saliva, the starch finally becomes converted into maltose.

Most of the specially prepared break-

fast foods attempt to bring about this condition by the pre-treatment of the foods in the factory and they have attempted to call them in many instances, therefore, predigested foods.

The writer, while chemist at the Michigan Experiment Station, made a rather extended investigation of these foods, and we shall study them somewhat in detail.

LABORATORY REPORT.

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Would you kindly tell me whether or not gasoline will deteriorate in quality or strength by standing in tank six months or a year? If so, what per cent would it depreciate?

Ionla Co.

W. H. W.

Gasoline is one of the by-products of petroleum and volatilizes or vaporizes at a point lower than does kerosene. The main difference between kerosene and gasoline, and other petroleum by-products is the temperature at which they will volatilize. This volatilization or distillation is the method in use for separating the various petroleum products. The gasoline comes off early in the distillation. The kerosene later in the distillation, when two products of different boiling points are mixed together and it is again desired to separate them, this may be accomplished by heating them until we reach boiling point of the one boiling at the lowest temperature. The greater portion of this one will usually be boiled off, and may be condensed and thus saved by conducting the vapors through a condenser. When nearly all of the lowest boiling liquid has been distilled over, the temperature begins to rise and portions of the higher boiling liquid begin to come over. There is no sharp line between the two. Consequently the portion which we will call gasoline, unless distilled several times, will contain small portions of the higher boiling fractions, such as kerosene. Commercial gasoline therefore, if allowed to vaporize slowly will gradually slightly deteriorate because the lowest boiling product vaporizes first, hence after standing exposed to the air for some time the liquid portion remaining will usually show a higher boiling point and a greater proportion therefore of the higher boiling hydro-carbons. If kept tightly sealed in a tank, the product should remain practically in its original condition for an indefinite length of time.

The Litmus Paper Test.

Will you please answer a few questions concerning the use of litmus paper? My soil is of a black muck foundation and I believe it is, to some extent, sour, also some alkaline. How long should the paper be left in the soil when testing, and should the soil be very wet to get a good test? If alkali is found, what should I use to correct it, and how much per acre?

Allegan Co.

G. O. B.

With regard to the use of litmus paper we will say: To secure favorable action upon it, it should be left in contact with the soil for some time, i. e., say an hour. With regard to the use of litmus paper for testing acidity in soil we wish to say that while we are aware that certain investigators have urged its use by farmers as a means of determining the acidity of soils, we do not believe results obtained from it are worthy of very much attention. With a black muck soil, we should not be inclined to worry about the possible presence of excess of alkali. With imperfect drainage, however, it would not be at all surprising for these soils to be acid in behavior. By an acid soil we mean a soil upon which clover will not make a satisfactory growth. This acidity may be corrected in one or the other or both of two ways. First, by thorough drainage, thereby causing efficient aeration which in itself tends to sweeten sour muck soils. Second, by the liberal use of finely ground (pulverized) lime rock or quicklime. Possibly both of the above expedients will be found advantageous. Ask the soil, will it grow a maximum crop of clover?

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

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Holstein Bull Calf, out of grand daughter De Kol 2nd. Butter Boy 3rd. Sired by best son of Pontiac Butter Boy. Price only \$50. C. D. WOODBURY, Lansing, Mich.

HOLSTEINS—Springers and heifer calves from A. R. O. stock for sale. W. J. MORGAN, Saginaw, W. S., Michigan.

FOR SALE—HOLSTEIN BULL CALF

Born June 5, 1912, sire a son of the King of the Pontiacs from a daughter of Hengerveld De Kol. Dam of calf, an A. R. O. daughter of Sadie Vale Concordia's Paul DeKol, her dam a 20lb. imported cow.

ED. S. LEWIS, Marshall, Mich.

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HOLSTEIN CATTLE
The Greatest Dairy Breed
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"Top-Notch" Holsteins.

Choice bulls from 11 to 14 mos. old, of fashionable breeding and from dams with official milk and butter records for sale at reasonable prices. Also young bull calves.

McPHERSON FARMS CO., Howell, Michigan.

REGISTERED HOLSTEIN CATTLE—Bull calves.
Herd headed by Hengerveld Coin Pietertje.
FLOYD F. JONES, R. F. D. 3, Oak Grove, Mich.

Lillie Farmstead Jerseys

(Tuberculin tested. Guaranteed free from Tuberculosis.) Several good bulls and bull calves out of good dairy cows for sale. No females for sale at present. Satisfaction guaranteed.

COLON C. LILLIE, Coopersville, Mich.

FOUR CHOICE A. R. O. HOLSTEIN BULL CALVES from six weeks to one year old. Price \$40 to \$150. ELLIS W. DORIN, Brookside Farm, Sunfield, Mich. R. F. D. 3.

BULL CALVES—Richest Hengerveld, DeKol and Korndyke breeding. Special prices for quick sale. YPSILAND FARMS, Ypsilanti, Mich., Cole Brothers, Owners.

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

Holstein Friesian Cattle—young bulls out of A. R. O. dams and sired by a bull with a 31 lb. dam. W. B. JONES, Oak Grove, Michigan.

REGISTERED HOLSTEIN Bulls 2 to 3 months old R. W. \$100, the kind we have been selling for \$75 now reduced to \$50, delivered, for 2 weeks only. Get pedigree and photo. Hobart W. Fay, Mason, Mich.

Hereford Bulls For Sale, Also Poland China Hogs.
ALLEN BROS., Paw Paw, Michigan.

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

FOR Sale, Jersey Bulls, old enough for service, sired by a grandson of Imp. Interested Prince and from cows that produce 400 to 500 lbs. butter annually. A. Newman R1, Marlette, Mich.



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To keep your chickens warm in winter, cool in summer, healthy and strong all year round, build your poultry house of concrete. More eggs and better chickens are sure to result. No rat or skunk can gnaw through concrete. There are no cracks or crevices for lice. And concrete is quickly and easily cleaned. Build with concrete—but be sure to get the best cement. Insist on

LEHIGH PORTLAND CEMENT

—the best all-round cement for building poultry houses, feeding floors, culverts, barns, sidewalks, etc., etc. Leading engineers have selected Lehigh for some of the biggest jobs in the country. They know that Lehigh is always the same—always dependable. You can protect yourself by insisting on Lehigh.

Two Valuable Books Free

(1) "The Modern Farmer"—giving detailed directions for over twenty different practical uses of concrete on the farm—money and time saving uses.

(2) "Concrete Silos"—our new book, which is one of the best books on silos ever printed.

You need these books. Write to

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With a Cyclone Tile Ditching Machine and save what a contractor would charge you. Then when you're through with the work on your land you can make hundreds of dollars by cutting ditches for your neighbors. The

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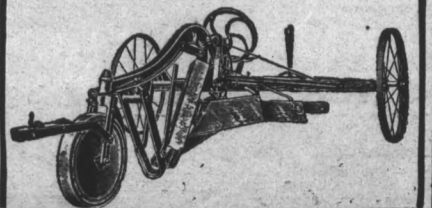
- cuts tile drains quickly, easily, cheaply;
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Farm Commerce.

THE NOMID SYSTEM.

A Plan for Distributing Farm Products.

Chapter V.—Making Payment.

On Delivery of Goods.

When goods are transferred to the buyer by the hand of the producer, or his agent, a most satisfactory way of making payment is to settle for the goods at the time of delivery. It is a desirable way because it completes the transaction. No book-keeping or memoranda of the agreement is then required; no misunderstanding about the price, the quantity, or the quality of the goods may be later advanced to recoup against the debt. Such matters are then fresh in mind and an amicable adjustment is more easily made than at any later time. This method is applicable where delivery of goods is made on the farm, on public markets, or at the residence of the consumer.

Collection on delivery of the goods may also be made when goods are sent by common carrier. Express companies will collect the price of the goods at the time presentation is made to the consignee. The price is then sent to the shipper of the goods. A small fee is charged for this service, which, of course, adds to the price of the goods to the consumer. It however, is very satisfactory where the goods are sent to strangers. In the case of freight, the shipper can have a sight draft drawn by his banker against the party to whom shipment is made, to cover the value of the goods. This sight draft, with the bill of lading, is forwarded by the bank to another bank in the city where the consignee lives. The latter bank notifies said consignee of the receipt of the draft and bill of lading. Upon payment of the sight draft the bill of lading is delivered to the consignee who takes it to the railroad, or transportation company, and receives the goods. The bank receiving payment forwards the amount of the draft to the first bank, which institution credits the shipper of the goods with the amount.

Upon Receipt of Bill.

When the party to whom goods are sent has an established credit, or is a personal friend of the shipper, or where business relations has given the shipper confidence that payment will be properly made, the goods may be sent by common carrier and a bill forwarded by mail. Upon receipt of the bill the purchaser of the goods sends payment to the shipper. This method is in common practice and seems to meet with approval of both seller and buyer under the conditions mentioned above.

One Collection Each Month.

It is also a common practice among parties dealing in farm produce directly to settle for shipments once each month. A statement is enclosed with each shipment or mailed to the consignee that he may know what is being charged and the amount of goods guaranteed; then at the end of each month the shipper sends a bill for all shipments for the month. This bill should itemize everything sent so the consignee may compare with the statements coming with the different consignments. When satisfied that everything is correct, payment for the whole is forwarded to the shipper. This system is to be recommended where the credit of the consignee is established with the shipper.

Where collections are made in person the practice of collecting once each month is followed by some shippers of produce. Shipments are made as required, then on a certain day of the month, usually at the end, the shipper goes to town and collects for all goods sent during the month.

Legal Methods.

In the event that one should get some poor accounts he can take advantage of the usual legal methods of collecting. The accounts are ordinarily placed in the hands of an attorney who collects and takes a certain percentage as fee for the service, the amount depending upon whether it is necessary to carry the matter into court or not. Comparatively little complaint is made of poor accounts in this manner of selling, however.

Legal Tender.

In the payment of bills of this kind actual money is the only legal tender. The purchaser cannot force the seller to

take anything but cash in payment for goods bought. But ordinarily a post office money order, a New York draft, or a personal check will satisfy and these are very good ways to make payment, providing the credit of the purchaser is good in case of the check.

Accurate Accounts.

In doing a business of this kind one should plan from the very beginning to keep accurate account of every transaction. The method so popular among farmers and producers in general, of keeping "things in the head" is quite sure to bring a misunderstanding—sooner or later. If a memorandum is made of an order, showing the kind, amount and quality of goods wanted, and another note made of date of shipment and the charge for same, all that is necessary, should a question be raised, is to turn to the memorandum of the transaction and read. The confusion that is certain to accompany a considerable number of orders from different parties makes such a precaution almost necessary.

Receipts.

It is a wise plan to be prepared to give the purchaser a receipt for moneys paid if he so desires. A receipt should always be sent where settlement is made by mail except where payment is made by check, when the records of the bank would establish the fact of payment if questioned, and a receipt would not be necessary. Parties in business for a long time usually dispense with receipts, but it cannot be said to be the best business policy not to give them.

Chapter VI.—General Advice.

Quality of Goods Offered.

In filling orders the quality of the goods should always measure up to the standard guaranteed. In no branch of dealing is this principle of honest trading more valuable than where one is selling direct to the person who expects to use the wares himself. The purchaser knows absolutely who is responsible for any defects, and the charges are at once brought home to the door of the producer. On the other hand, where the product is as it should be, the advertising value to the seller cannot be readily ascertained. Standards of grading should be understood and followed. If a patron wishes a bushel of fancy apples, the grower should not attempt to sell him apples that would properly grade as No. 2's, although the fruit may be the best he grows. Under such circumstances he should write or tell his patron that he has no fancy apples, but that he can supply him with No. 2's.

Weight and Measure.

The strictest watch must be kept over the weight, or measure of the article sold. The same reasoning prevails here as for quality. Scales should be accurate and measures of the correct size. If one cannot make as good quotation as another because that other person does not give right weight or measure, that fact should be brought to the attention of the purchaser. The average person will gladly give his patronage to the person who is endeavoring to do the right thing. It is not necessary that over-weights or over-measures be dealt out. Be honest with yourself as well as with the man to whom you sell.

Price Asked for Goods.

Experience has taught that it is a wise policy for the producer to make his price reasonable when introducing himself and his goods to the trade. The producer will find the situation just the opposite from what it is where selling to middlemen. The middlemen set the price and the producer accepts it or not as he wishes—usually he is compelled to take what is offered for all other middlemen are sure to offer him the same. But when one sells his goods direct to the consumer the first question asked is "how much?" To be put in such a position may tempt the seller to ask a price too high for his own good. Now the first thing needed is a reputation. One wishes people to know that he brings good goods, gives honest weight, and stands behind his guarantee. After this he can advance prices according as his goods come into demand from the reputation he has made. But through frightening persons away by asking too high a price one may have

no opportunity to establish a reputation other than "he is too high-priced." This does not mean that one should start selling to the retail trade for what the middlemen have been offering him. As indicated in the first chapter of this treatise, the margin between the wholesale price to the producer and the retail price to the consumer is wide and there is plenty of room for the producer to make his enterprise pay from the start and yet gain a good reputation among those who buy from him.

Neatness.

City residents are susceptible to the enchantment of neatness. Their manner of life has not only made it possible, but necessary, to have things clean and neat. To this they have become accustomed, so that he who desires to get in their good graces must be tidy in his own appearance and have his wares well graded, clean, and in an attractive receptacle. While such care may add but little to the real value of the goods it adds greatly to the ease with which they are sold.

Gifts.

The indirect value to the seller, of making little gifts to his patrons can scarcely be realized. On the farm are many things which in the course of work go to waste. These the urban people would be much pleased to have. The enclosing of a few apples, carrots, sprigs of parsley, etc., will impress patrons with your thoughtfulness and generosity and make you the subject of conversation with friends—one of the best kinds of advertising. This practice is especially appropriate for holiday trade.

Notices.

An inexpensive method of notifying patrons of seasonable, or surplus products on hand, is by placing appropriate notices in the packages being forwarded. If the persons who are buying do not happen to need the things noticed they may tell their friends and thus be the means of reaching new customers. This suggestion is particularly useful to those who make delivery by common carrier.

Correspondence.

In the matter of correspondence, producers are apt to be a little slow about making replies, but when dealing with parties in the city answers to letters should be made promptly. Delays often cause inconvenience, since produce is ordered to fill a want usually at some particular time. Disappointments make it difficult to hold a trade, require explanation, and furnish poor advertising. If a business of this kind would encourage producers to be more prompt about attending to their letters it would serve a good purpose to that extent, at least.

Follow business methods in your correspondence. Use letter-heads and printed envelopes and provide yourself with bill-heads. Such material can be secured from your local printer. Communications written with ink are easier read and have a better effect upon the recipient of the message than where the lead pencil is employed; typewritten letters are still more businesslike. The good business letter contains simply the matter needed to convey the idea to be communicated and no more, and the producer who is writing to sell his goods should follow this rule. In other words, it is policy to dignify the business of producing and selling the necessities of life as much as possible through your letters.

(Continued next week.)

UNITED FRUIT COMPANIES OF NOVA SCOTIA, CANADA.

About three years ago the fruit growers of Nova Scotia found that they were hampered in many ways in disposing of their crops. Up to that time all shipments to Europe were made through agents, commission merchants, and speculators here, who in turn consigned to dealers in London and Liverpool. In this way the expenses far exceeded the profits. Again, there was no system exercised in sorting or packing; consequently much inferior fruit found its way to the European markets, resulting in further loss and discredit.

To overcome these difficulties, co-operative associations were organized at the towns of Berwick, Wolfville, and Kingston, but without success. Last year there was a combination of growers under a central association without corporate powers that did fairly well, handling some 400,000 barrels, but the form of this association did not afford the relief hoped for.

To remedy the defect a special act was passed by the Dominion parliament permitting the organization of what is now known as the United Fruit Companies (Ltd.), with a capitalization of \$5,000,

since increased to \$11,000, the par value of the shares being \$50 each. Under the rule each member must have one share and not more than five.

The fruit of each member is gathered by itself and after sorting is taken to the warehouses of the association, of which there are five. Here the fruit is re-sorted and properly packed under the direct supervision of the general manager, and the discarded fruit is taken away by the grower and consigned to the drier or vinegar factories. For the services of packing the grower is charged five cents per barrel. In this way all fruit exported will be of the highest standard and will command the highest prices. In packing, color as well as size and quality, is strictly observed, as the European market demands fruit of high quality only. It is for this reason that the Rhode Island Greening and other apples of like color are in little demand on the Continent. All the fruit of the members is shipped by the association. Some 600,000 barrels of fruit were handled in 1912.

The organization aims not only to handle the fruit of its members, but also to assist them in the purchase of their principal supplies, such as barrels, boxes, farming implements, twine, seed, nursery stock, fertilizers, and in fact all the necessary appliances for fruit growing. Last year growers were compelled to pay very high prices for barrels, as much as 40 cents per barrel in some instances. This year the members are paying 23 to 28 cents for barrels and about 16 cents for bushel boxes. Very few boxes are used. Later the association expects to make its own barrels and boxes.—Consul General James W. Ragsdale, Halifax.

A REAL TREAT COMING.

The readers of the Michigan Farmer are singularly fortunate in having the wide experiences in co-operative selling of W. H. Ingling, general manager of the Monmouth County Farmers' Exchange of New Jersey presented in a series of contributions to this journal, the first article appearing in next week's issue. Every sentence of these articles merits the close study of the thousands of Michigan Farmer patrons, so do not miss the first number.

CROP AND MARKET NOTES.

Sanilac Co., Jan. 17.—January 3 our winter weather started. Since then we have had some zero weather but just one snow storm, which made fine sleighing. Meadows and wheat fields well protected, about five inches of snow on the level. But today indications are for a thaw. No ice harvested as yet. Stock in general seem to be healthy so far this winter. The cry of cheap horses is nearly forgotten, as the spring nears the demand grows stronger. Less hogs in the country than last winter. Beef high; fat cows bringing fancy prices. Hay market not very encouraging. Adversities of the season of 1912 caused numberless acres of hay which otherwise would have been planted to corn or beans; 90 per cent of the manure is drawn to the field as fast as made. Not much change in the markets.

Ottawa Co., Jan. 18.—The winter thus far, in this section, has been very mild, with just snow enough to cover the ground a few times. A few days ago there was quite a thaw so the roads were muddy. Wheat is beginning to show the effects of the open winter, especially the late sown which did not get much growth in the fall. Some hay is being shipped, but not as much as last season. One reason is the price is not so good, and neither is the quality, on account of so much rain during the haying season. For some six weeks many farm teams have been busy drawing gravel for one of the county trunk lines of roads that are being built through this section. When spring opens it is expected work will be pushed, so as to complete as many miles of these county trunk lines of roads as possible next year. While these roads will be somewhat expensive, yet when finished they will prove of great benefit to the county at large. The canning factory which was built and run last season at Coopersville, is now taking acreage for next season, and is meeting with good success.

Mecosta Co., Jan. 17.—The winter thus far has been unusually mild. Only one night has the thermometer registered below zero and then only two below. Live stock is looking exceptionally well, some of the farmers are taking advantage of the nice weather and are pasturing their cattle, thus saving considerable feed. The live stock that is for sale is about all shipped. Also the poultry is all out of the county. Butter-fat is quoted at 35c; butter up to 30c; eggs, 26c; potatoes, 40c; chickens, 11c; hogs, 7c; cattle from 3c to 5c.

Indiana.

Laporte Co., Jan. 18.—Mild winter so far, generally between 20 and 30 degs. Stock doing well; a good winter to feed steers so far; not many feedings; price, 5@6c alive. Hogs mostly sold at 7c on the hoof; 9c dressed. Had one week of good sleighing but none now. Rained last night, turning to snow. Butter, 35@40c; eggs, 30c; chickens, 12c alive; wheat 96c; corn, 40c. Hessian fly in some fields. Pneumonia and diphtheria quite frequent and many severe cases.

EXCELSIOR ALFALFA AND CLOVER DRILLS

Guaranteed without Reservation to any reputable farmer for drilling

Clover in Wheat

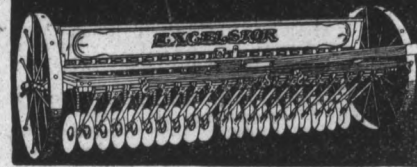
Cultivates your wheat without injury and increases yield 3 to 7 bu. per acre. Saves half your seed and secures far better stand than by any other method. The Excelsior is sold with this understanding. Records from reliable farmers show that they have paid for the Excelsior with what they saved in seed alone.

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with the discs 4" apart for the proper planting of alfalfa, clovers, timothy, rape, millet, etc.

Write for full information now! Our SPECIAL BOOKLET M-96 has proved invaluable for others—it will for you; it shows conclusively WHY the Excelsior is the one best drill for such costly seeds. Our literature mailed only on request.

Velvetlawn Seeder Co.
Springfield, Ohio



DUNHAMS' PERCHERONS
are today as for the past forty-seven years the
-B-E-S-T-
Fresh importation. Catalogue FREE.
DUNHAMS, Wayne, Du Page County, Ill.

2 Registered Stallions

One black American bred Percheron, sound and clean, 2 years old and weighs 1720 lbs. The greatest 2-year-old in the State. One bay imported Belgian, sound and clean, 6 years old and weighs 1850 lbs. Sure breeder, can show a lot of fine colts. Prices right. Going out of business, would exchange for work horses or real estate.
WILL CLARK, Ashley, Ind.

FOR SALE—Two Clydesdale mares, also 1 grade Perch. born in Ind. Write R. S. HUDSON, Michigan Agricultural College, East Lansing, Mich.

FOR SALE—an extra good high grade, two-year-old Percheron Stud. Weigh 1775.
W. E. HOADLEY, Niles, Michigan.

Breeders' Directory—Continued.

JERSEYS—Five heifers (three fresh) coming three and four years old and one bull two years old. ALEX. FORSYTH, Standish, Mich.

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

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

Dairy Bred Shorthorns—Two yearling heifers for sale. Price \$100 each. Bulls all sold.
J. B. HUMMEL, Mason, Michigan.

Dairy Shorthorns—Large Cattle—Heavy Milkers. No stock for sale at present.
W. W. KNAPP, R. No. 4, Watervliet, Mich.

SHEEP.

"BREED UP YOUR SHEEP" Article sent free to any address.
PARSONS, R. No. 1, Grand Ledge, Mich.

Reg. Rambouillet Sheep, Pure Bred Poland China HOGS and PERCHERON HORSES. 2 1/2 miles E. Morrice, on G. T. R. R. and M. U. R. J. Q. A. 000X.

WOOL—MUTTON Shrop. Ewes bred to imported ram. Bargains. Also P.O. Brood sows. Write today for price list. Maplewood Stock Farm, Allegan, Mich.

HOGS.

BERKSHIRE BOARS
May and June farrow, large size, heavy bone. \$18 and \$20 each. GEO. E. LAPHAM, St. Johns, Michigan.

BERKSHIRES Choice spring boars and gilts, priced to move quick. Farmers stock. ELMHURST STOCK FARM, Almont, Mich.

BERKSHIRES—Boars ready for service \$16; sows ready to breed \$18; sows bred \$20. Stock guaranteed. B. B. REAVEY, Akron, Mich.

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

O. I. C.—TWO BOARS fit to head any herd. Fall pigs ready to ship.
C. J. THOMPSON, Rockford, Michigan.

Improved Chesters—Young breeding stock, either sex. Also a few tried sows to be bred for spring farrow and early fall pigs. W. O. WILSON, Okemos, Mich.

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

O. I. C. Swine, both sexes. Males weighing 100 to 225 lbs. Herd registered in O. I. C. Association.
GEO. P. ANDREWS, Dansville, Ingham Co., Mich.

DUROCS OF QUALITY AND BREEDING.

Will hold my bred sow sale the last of February. Will sell 30 head of extra good ones. Watch for ad latter. Just one last of April board for sale.
H. G. KEESLER, Cassopolis, Michigan.

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

O. I. C. Pigs of September and October farrow for sale cheap. JOHN BERNER & SON, Grand Ledge, Mich.

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

Reg. Chester Whites—Both sexes and bred gilts, also serviceable registered Holstein bulls. Bargains. RAY PARHAM, Bronson, Mich.

O. I. C's—A fine lot of last spring stock for sale, big growthy type, either sex, pairs not akin. Sired by Grand Champion boar, Scott No. 1. Half mile west of depot. OTTO B. SCHULZE, Nashville, Mich.

O. I. C. Fall pigs, pairs not akin, young sows to farrow in March and April. Holstein bull calf sired by Pontiac Burke 2nd. Fred Nickel, R. 1, Monroe, Mich.

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

Duroc Jerseys—for sale: 20 fine service boars of fancy breeding and individual quality. Prices reasonable. John McNeill, North Star, Mich.

DUROC JERSEYS—A Few Gilts for Sale
CAREY U. EDMONDS, Hastings, Michigan.

DUROC GILTS—\$20 to \$30. Shropshire Ewes \$20 to \$30. KOPE-KON FARM, Kinderhook, Michigan.

Duroc Jersey SWINE. Spring and summer pigs for sale, both sexes. I pay express. 25 years experience. J. H. BANGHART, Lansing, Mich.

Butler's Big Bone Poland Chinas.

We don't claim to own all the good hogs in the U. S., but we do claim to have bred and sold more big type Polands in the last ten years than any two other breeders in Michigan. If you want a good fall boar write
J. C. BUTLER, Portland, Michigan.

POLAND CHINA

Brood Sow Sale
Friday, Feb. 7, 1913

35 Sows, 5 Boars. Drop Postal for catalog.
WM. WAFFLE, Coldwater, Michigan.



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

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

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

POLAND CHINAS Spring boars ready for business. Extra good length and bone. Prices right. L. W. BARNES & SON, Byron, Michigan.

LARGE styled Poland China spring and fall pigs from strong, healthy, prolific breeders, either sex at low prices. ROBERT NEVE, Florton, Mich.

P. C. BOARS AND SOWS—large type, sired by Expansion 80439 and E. M. F. 53867. Satisfaction guaranteed. R. W. MILLS, Saline, Mich.

P. C. BOARS—large type—sired by Expansion 80439 and E. M. F. 53867. Satisfaction guaranteed. R. W. MILLS, Saline, Mich.

LARGE TYPE P. C. HOGS—Largest in Mich. Boars all sold. A few fall pigs. Also some extra large spring gilts to be bred to two of the best young boars I could buy in Iowa. Come or write. Free livery. W. E. LIVINGSTON, Parma, Michigan.

MULE FOOT HOGS—Fall pigs, service boars and bred sows for sale. Best quality, price right. G. C. KREGLOW, Ada, Ohio.

Mule Foot Hogs

At Public Auction
SALE FEBRUARY 15th, 1913

Fifty head of bred gilts. Young stock for sale at all times. Breeding stock recorded in the National Mule Foot Hog Record. Write for catalog and information.
JOHN A. WILLIAMS, R. R. 6, Box J, Eaton Ohio.

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

CHOLERA PROOF HOGS.

I keep from 4000 to 6000 grade Yorkshire and Poland China cholera immune hogs and am selling prolific brood sows, also shoats weighing from 50 to 150 lbs. at prices that make them desirable on cholera infected farms. Sows weighing more than 100 lbs. are several thousand pigs from immune sows and boars for sale next spring.

ALVAN BROWN'S PIG FARM, Grand Rapids, Michigan.

As Good As The Best!—Yorkshires. Gilts bred for spring farrowing. WATERMAN & WATERMAN, Meadow Land Farm, Ann Arbor, Mich.

LARGE YORKSHIRE SWINE—August farrowed gilts \$20 each. No males in stock. Geo. S. McMullen, Clitz, Phone, Grand Ledge, Mich.

Lillie Farmstead YORKSHIRES

A splendid lot of fall pigs at reduced prices, pairs and trios not akin. Young sows and gilts bred for April farrow. Your money back if you are not satisfied.
COLON C. LILLIE, Coopersville, Mich.

Markets.

GRAINS AND SEEDS.

January 22, 1913.

Wheat.—Weakness developed in this market the past week and prices show a general falling off of about 2c. Conditions, however, seem to indicate that the market is on a fighting basis. Careful investigations show that farmers in both the winter and spring wheat sections have comparatively small amounts of wheat still in their hands. Good roads and generally favorable weather have encouraged marketing, but in spite of this the cereal has not piled up, due to the demand from abroad. France reports deterioration in crop, and unfavorable weather prevails in India. The growing crop in this country is generally well protected from the recent cold wave. There have been few complaints of the Hessian fly. One year ago No. 2 red wheat was quoted locally at 97½c per bu. Detroit quotations are as follows:

	No. 2	No. 1	Red.	White.	May.	July.
Thursday	1.15½	1.14½	1.14½	1.20½	98½	98½
Friday	1.15½	1.14½	1.14½	1.19½	97½	97½
Saturday	1.15½	1.14½	1.14½	1.19½	97½	97½
Monday	1.14½	1.13½	1.13½	1.18½	96½	96½
Tuesday	1.14	1.13	1.13	1.18½	96½	96½
Wednesday	1.13½	1.12½	1.12½	1.18	96½	96½

Chicago, (Jan. 21).—No. 2 red wheat, \$1.12@1.15; May, 93½c; July, 90½c per bushel.

New York, (Jan. 21).—No. 2 red wheat, \$1.10, f. o. b. afloat; May, 99½c per bu.

Corn.—This deal has not followed closely the trend of wheat prices although a fractional decline is noted in quotations since a week ago. An influential item is the condition of the crop in Argentina where heat and drouth have caused serious damage, the price at Buenos Ayres showed an advance of over a cent on Tuesday. One year ago No. 3 corn was quoted here at 65c. Detroit quotations for the past week are as follows:

	No. 3	No. 3	Yellow.
Thursday	50½	51½	51½
Friday	50½	51½	51½
Saturday	50½	51½	51½
Monday	50	51	51
Tuesday	50	51	51
Wednesday	50½	51½	51½

Chicago, (Jan. 21).—No. 2 yellow, 49½c@50c; May, 52c; July, 52½c.

Oats.—While values in Detroit are lower than that reported here a week ago, Chicago quotations rule slightly higher. This condition is largely the outgrowth of local influences and the Chicago price should probably be considered as better indicating the trend of the deal. There is a good domestic demand for cash oats while foreign markets report higher prices and Argentine claims some damages from a lack of moisture. Primary receipts, on the other hand, have been liberal, being greater than a week ago by 500,000 bu. One year ago the local price for standard oats was 52½c per bu. Detroit quotations are as follows:

	No. 3	Standard.	White.
Thursday	36½	36½	35½
Friday	36½	36½	35½
Saturday	36	36	35
Monday	35½	35½	34½
Tuesday	35	35	34
Wednesday	35	35	34

Chicago, (Jan. 21).—No. 2 white, 34c@35½c; standard, 33½c@34c; July, 34½c.

Beans.—Local quotations are off 5c in both cash and February delivery. Prices are: Immediate, prompt shipment and January, \$2.15; February, \$2.10 per bu.

Chicago, (Jan. 21).—Prices fully 20c per bu. lower for pea beans. Hand-picked are \$2.35; do. prime, \$2.20@2.25; red kidney, \$2.25@2.50 per bu.

Clover Seed.—Higher, with comparatively little seed coming in to satisfy the strong demand. Detroit quotations are: Prime spot, \$12.15; prime alsike, \$12.25.

Toledo, (Jan. 21).—Prime cash, \$12.55; March, \$12.65; alsike prime, \$13.55; do. March, \$13.65 per bu.

Rye.—Detroit, cash No. 2 unchanged at 62c per bu.

FLOUR AND FEEDS.

Flour.—Jobbing lots in ½ paper sacks are selling on the Detroit market per 19½ lbs. as follows: Best patent, \$5.60; second, \$5.30; straight, \$5.20; clear, \$4.90; spring patent, \$5.10; rye flour, \$4.90 per bbl.

Feed.—Detroit jobbing prices in 100-lb. sacks are as follows: Bran, \$24; coarse middlings, \$23; fine middlings, \$28; cracked corn \$24; coarse corn middlings, \$21.50; corn and oat chop, \$20 per ton.

Hay.—Local trade steady with poorer hays moving slowly. Carlots on track at Detroit: No. 1 timothy, \$14.50@15; No. 2, \$13@13.50; light mixed, \$13.50@14; No. 1 mixed, \$12.50@13 per ton.

Chicago, (Jan. 21).—No marked change. Movement slow. Choice timothy, \$17.50@18.50; No. 1, \$14.50@16.50; No. 2 and No. 1 mixed, \$12.50@14; No. 3 and No. 2 mixed, \$10@12; clover, \$7@11; alfalfa, choice, \$15@16; do. No. 1, \$13.50@14.50; do. No. 2, \$10@12 per ton.

New York, (Jan. 21).—Market steady; standard \$20.50@21 per ton; No. 1, \$22; light clover mixed, \$20@21.

Straw.—Car lot prices on wheat and oat straw on Detroit market are \$8.50@9 per ton; rye straw, \$10@10.50 per ton.

New York, (Jan. 21).—Rye straw, \$19@20 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—The market is tending in the direction of lower values. The Elgin quotation this week is 1@1½c lower. In the local market creameries are quoted lower; other kinds unchanged. Jobbing

prices in the Detroit market are: Fancy creamery, 33c; firsts, 31c; dairy, 22c; packing stock, 21c per lb.

Elgin.—Market firm at 32c. Chicago.—Steady with no special change in values. Quotations are: Extra creamery, 33½c; extra firsts, 30@32c; firsts, 26@28c; seconds, 24c; dairy extras, 30c; firsts, 27c; seconds, 24c; packing, 12@21c as to quality.

New York.—Values generally about 1c lower than last week. Market fairly steady. Creamery extras, 33½@34c; firsts, 30@33c; seconds, 27@29c; thirds, 25@26c; state dairy, best, 30@32c; good to prime, 27@29c; common to fair, 22@26c; packing, 17@21½c as to quality.

Eggs.—Prices declined rapidly late last week but more seasonable weather this week has had a firming effect. Locally the low point was 22½c, but an advance to 24c on Monday leaves a net loss of only 1c since this time last week. At Detroit current offerings, candled, and cases included, are quoted at 24c per doz.

Chicago.—The firming effect of the weather here appears to be only temporary as offerings continue to increase. An easier feeling prevails, with prices 2@2½c lower for the week. Miscellaneous receipts, cases included, are quoted at 18@22½c; do. cases returned, 18@22c; ordinary firsts, 18@20c; firsts, 22½@23c; refrigerators, firsts, 17½@18c per dozen.

New York.—This market shared last week's decline but is firmer this week. Prices range 2c lower than at this time last week. Fresh gathered extras, 27@28c; extra firsts, 26@26½c; firsts, 23@24c; seconds and lower grades, 22@23c; western gathered whites, 26@30c.

Poultry.—Detroit.—Recent high values on chickens are holding up well and the past week has seen an advance in live ducks and in dressed ducks, geese and turkeys. Dressed.—Spring chickens, 15½@16c; hens, 15@15½c; turkeys, 20@21c; ducks, 18@19c; geese, 15@16c per lb. Live.—Spring chickens, 15@15½c; hens, 14@15c; No. 2 hens, 10@12c; old roosters, 9@10c; turkeys, 18@19c; geese, 12@14c; ducks, 16@17c per lb.

Chicago.—Quiet, with values practically unchanged. Quotations on live are: Turkeys, good weight, 15c; others, 10c; fowls, good, 13c; spring chickens, 13c; ducks, large, fat, 15c; do. Indian runners, 12c; geese, full feathered, 13c; do. plucked, 8@10c per lb.

New York.—Dressed stock steady. Fresh killed western chickens, 14@20c; fowls, 13@17c; turkeys, 14@23½c per lb.

Cheese.—Market steady; values unchanged. Quotations: Wholesale lots: Michigan flats, 16@16½c; New York flats, 18½@19c; brick cream, 16½@17c; limburger, 17@18c.

Veal.—Detroit.—Slightly lower. Fancy, 13½@14c; choice, 10@12c per lb.

Chicago.—Fair to choice, 80@100 lbs., 11½@12½c; extra fancy stock, 13c; fair to good chunky, 10@11½c per pound.

FRUITS AND VEGETABLES.

Apples.—Nothing of encouragement to sellers. Prices about steady. Fancy, per bbl., \$2.50@3; ordinary, \$1@1.25.

Potatoes.—Trade steady. Michigan stock in car lots, 50c in sacks, 46 in bulk.

Chicago.—Receipts are less than half the volume of those of last year and the trade is firmer at slightly advanced prices. Fancy Michigan stock, 48@50c per bushel.

New York.—Market steady to firm. Western supplies are quoted at \$1.40@1.85 per bag.

DETROIT RETAIL PRICES.

Eastern Market.—A limited amount of business was done on the market Tuesday; apples, cabbage and potatoes constituted the bulk of the offerings. Apples were plentiful and quoted from 50@75c per bu., according to quality. Potatoes sold around 60c; parsnips, 35c; turnips, 50c; beets, 30c; carrots, 30c; cabbage, 20@25c per bu. Pork was quoted at \$10.50 per cwt.

In retail stores apples are quoted at 75c@1.10; potatoes of good quality, 75c; best eggs, 33c; creamery butter, 40@42c; dressed chickens, 20c per lb.

Grand Rapids.

The potato market has showed weakness during the past few days, with the paying price around 40c at Greenville and the highest market points. Local jobbers were paying 24c for dairy butter and 22c for fresh eggs Tuesday of this week. Hay is bringing \$10@14, and much of it is of poor quality due to the wet summer. Grain prices are as follows: Wheat, \$1.12; oats, 36c; corn, 51c; beans, \$1.80. In live poultry hens are 10@15c; ducks, 11c; turkeys, 15@17c. Dressed hogs are 9½@10c.

THE LIVE STOCK MARKETS.

Buffalo.

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

January 20, 1913.

Cattle.

Receipts, 180 cars; market slow, 25@40c lower. Best 1350 to 1500-lb. steers, \$8.50@8.75; good to prime 1200 to 1300-lb. steers, \$7.75@8.15; good to prime 1100 to 1200-lb. steers, \$7.25@8; coarse plainish 1100 to 1200-lb. steers, \$7@7.50; medium butcher steers, 1000 to 1100, \$5.50@6.25; butcher steers, 950 to 1000, \$6.25@7; light butcher steers, \$5.50@6; best fat cows, \$5@6.25; butcher cows, \$4.50@5.25; light butcher cows, \$4@4.50; cutters, \$3.75@4; trimmers, \$3.50@3.75; best fat heifers, \$7.25@7.75; medium butcher heifers, \$6@6.50; light do., \$5@5.75; stock heifers, \$4@4.25; best feeding steers, \$6@6.60; best butcher bulls, \$5.50@5.80; bologna bulls, \$4.75@5.25; stock bulls, \$4.75@5.25; best milkers and springers, \$6.50@7.50; common to fair kinds, \$4@5.00.

Hogs.

Receipts, 100 cars; market active. Heavy, \$7.90@8; yorkers and pigs, \$8.

Sheep and Lambs.

Receipts, 72 cars; market active. Top

lambs, \$9.50@9.60; yearlings, \$7.50@8.50; wethers, \$6.25@6.50; ewes, \$5.50@6; bucks \$3@4.25.

Veal Calves.

Grades ranging from \$5@12.

Chicago.

January 20, 1913. Cattle. Hogs. Sheep. Received today . . . 25,000 43,000 22,000 Same day last year . . . 29,567 51,193 24,696 Received last week . . . 63,827 148,756 103,771 Same week last year . . . 57,418 178,404 121,617

The usual Monday experience is witnessed today in the cattle market, buyers neglecting steers of all kinds, especially good lots and satisfying their demands mainly with butcher stock, which is selling not always as well as heretofore. At a late hour hardly anything had been done in selling steers, sellers quoting prices 10@15c lower on a shrewd guess. Hogs had such a strong local and shipping demand from the start that prices were 5@10c higher, with sales at \$7.20@7.70. Hogs received last week averaged in weight 223 lbs., compared with 227 lbs. a fortnight earlier, 212 lbs. a year ago, 224 lbs. two years ago and 208 lbs. three years ago. The run of sheep and lambs was small for a Monday, and fat stock is selling irregularly higher. Sellers were asking \$9.25 for some prime Colorado lambs, there being a good many received from that state, but at a late hour no lambs were sold above \$9, killers objecting to go over that price. Some fat wethers that brought \$6.35 showed an advance of 10c, and a sale of some 170-lb. ewes at \$5.25 was higher.

Cattle were in a bad way last week, the sudden change to warm, wet, spring-like weather tending to materially lessen the consumption of meats of all kinds, and especially beef. Unfortunately, at the most unfavorable time imaginable, the receipts were greatly increased, the week beginning with a Monday run of over 29,000 head, and there was a general break in prices for steers of 25c. Butcher stuff continued to show the most activity and the least weakness in prices, and the bulk of the steers crossed the scales at \$7.25@8.50, with limited sales at \$8.60@9.15, while there was a Monday sale of 19 prime 1648-lb. Shorthorns at \$9.50. The commoner light-weight steers were purchased for \$6@7, and sales of short-fed steers took place at \$7.25@8 with the better class of handy little yearlings going at \$8.50@8.85. Cows and heifers for the butcher trade had a good outlet around \$4.70@7.25, and limited sales of extra fine lots were made at \$7.30@8.10. Cutters went at \$4@4.65, canners at \$2.85@3.95 and bulls at \$4.35@7.10. There was a good deal of interest shown by country buyers in stockers and feeders, and shaded prices for young cattle that were not of the very best class helped to stimulate their sale. Stockers sold at \$5.25@7.30 for inferior to prime well-bred lots, while most feeders carrying much weight brought \$6.60@7.75, with extreme sales recently of fancy extra heavy feeders at \$7.80@8.10, but not many such transactions took place. As a rule the stocker and feeder branch of the market has been the most animated, farmers being anxious to fill their feed lots and utilize their feed in that manner. The best demand is for cattle that weigh around 700 to 900 lbs. Calves were higher at \$4.50@11 per 100 lbs., and milch cows were wanted at \$35@35 per head, with not many good enough to fetch \$75. The late week market for all kinds of cattle, butcher stock and stockers and feeders included, was bad and decidedly lower, many lots being off more than 25c. Receipts were unusually liberal, running far ahead of a year ago.

Hogs have been marketed freely or sparingly of late according to the trend of prices, the average holder keeping a close watch on market conditions. Not long ago prices had such sharp declines that the receipts were at once materially curtailed and good rallies followed. The eastern shipping demand for the better class of swine continues an important feature and is a potential factor in checking any downward movement in values, while local speculators frequently take a hand in the game and through their purchases of the choicer lots help to maintain their values. The demand for fresh pork is a big factor, too, requiring something like 40 per cent of the hogs received weekly to satisfy. Big, heavy packer hogs are neglected and selling at bottom prices, with light and medium weights the favorites and selling the highest. When the week closed hogs sold at \$7.10@7.60, compared with \$7@7.40 a week earlier. Sales were largely at \$7.40@7.50, stags bringing \$7.65@8.10, boars \$3.25@4.25, throwout packing sows \$6.50@7 and pigs \$6.25@7.40.

Sheep and lambs climbed so extraordinarily high a short time ago, when prime lambs brought \$9.50, that reactions were inevitable, and last week saw reductions in values, notwithstanding a good demand for fat stock. The warm weather was a disturbing element, tending to lessen the consumption of mutton, and much of the time the market was overloaded with lambs and sheep. The demand continued much the best for fat lambs and yearlings of light weights, these topping the market, while heavy weights of both had to go at large discounts. Receipts included considerable numbers of Colorado-fed Mexican lambs of superior quality. Later on these lambs are expected to come here in large enough numbers to be an element in lowering prices. Colorado, Utah and Idaho are feeding half a million head more than a year ago, while everywhere else feeding operations are greatly lessened. The decline for the week averaged fully 50c, lambs closing at \$6.50@9 at the extreme range, yearlings at \$6.25@8.15, wethers at \$5.50@6.25, ewes at \$2@5.50 and bucks at \$3.50@4. Feeding lambs brought \$7.50@8.10. The best heavy lambs brought \$8.50 and prime heavy yearlings \$7.65. The breaks in prices stopped the liberal receipts.

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THIS IS THE FIRST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Last Week's Thursday Market.

Cattle.

Receipts, 1544. Bulls and canners steady and others 15¢ lower than last week. We quote: Extra dry-fed steers and heifers, \$7.50@8; steers and heifers, 1000 to 1200, \$6.75@7.25; do. 800 to 1000, \$6.50@7; do. that are fat, 500 to 700, \$5.50@6; choice fat cows, \$5.75@6.25; good do., \$5@5.25; common cows, \$4@4.25; canners, \$3.25@4.25; choice heavy bulls, \$6@6.50; fair to good bolognas, bulls, \$5@5.25; stock bulls, \$4.50@4.75; milkers, large, young, medium age, \$5@70; common milkers, \$3@40.

Roe Com. Co. sold Kamman B. Co. 7 steers av 921 at \$7.25, 3 bulls av 1120 at \$5.75, 2 cows av 985 at \$4; to Breitenbeck 7 do av 990 at \$5.25; to Mich. B. Co. 7 do av 1070 at \$5.75, 4 do av 932 at \$4, 12 butchers av 826 at \$6.40, 1 bull weighing 840 at \$6, 4 steers av 370 at \$5.25, 6 butchers av 840 at \$6; to Newton B. Co. 9 do av 883 at \$6.

Bishop, B. & H. sold Sullivan P. Co. 2 cows av 1150 at \$4.25, 5 do av 1094 at \$5.50, 4 do av 1110 at \$5.50, 2 do av 800 at \$4.25; to Parker, W. & Co. 5 do av 868 at \$4.50, 2 do av 825 at \$4, 4 bulls av 807 at \$5.25, 2 do av 1065 at \$6, 1 do weighing 870 at \$5.75; to Newton B. Co. 2 butchers av 660 at \$3.75, 22 cows av 884 at \$4.10, 24 butchers av 814 at \$6.10, 1 bull weighing 650 at \$5, 5 cows av 815 at \$4.10, 8 do av 972 at \$5, 4 steers av 816 at \$7, 1 bull weighing 1020 at \$6, 2 steers av 1105 at \$7.50, 3 do av 1027 at \$5.25, 2 do av 950 at \$4, 6 do av 918 at \$4.20, 2 do av 760 at \$4, 6 steers av 805 at \$6, 1 do weighing 1050 at \$7.25; to Sapairo 3 bulls av 1257 at \$6.50, 12 cows av 860 at \$5, 1 do weighing 1220 at \$6; to Mich. B. Co. 1 do weighing 900 at \$4.25, 1 steer weighing 1110 at \$7, 2 do av 940 at \$7.25, 3 cows av 1023 at \$4.25, 16 butchers av 820 at \$6.50; to Kamman B. Co. 3 cows av 1003 at \$5.50; to Bresnahan 13 butchers av 640 at \$6; to Hammond, S. & Co. 6 do av 621 at \$5.50, 2 do av 725 at \$3, 1 heifer weighing 950 at \$7.

Spicer & R. sold Kamman B. Co. 17 butchers av 826 at \$4.75, 5 steers av 764 at \$6.60, 2 cows av 860 at \$5, 1 bull weighing 1020 at \$5.50, 12 butchers av 718 at \$5.75, 2 steers av 905 at \$7; to Sullivan P. Co. 6 cows av 790 at \$3.65, 3 bulls av 1377 at \$5.65; to Nagle P. Co. 6 cows av 1041 at \$4.50, 2 do av 1105 at \$6.50, 1 do weighing 990 at \$5, 1 do weighing 810 at \$3.75, 2 do av 1125 at \$6.25, 7 do av 993 at \$4.60, 4 do av 1002 at \$4.60; to Rattkowsky 2 bulls av 952 at \$5.50, 1 do weighing 1180 at \$5.60; to Sullivan P. Co. 6 butchers av 700 at \$5.50, 1 steer weighing 980 at \$7, 1 cow weighing 910 at \$3.50, 1 do weighing 950 at \$4.50, 7 butchers av 660 at \$6, 8 do av 849 at \$6.10, 1 bull weighing 1450 at \$5.75, 3 cows av 1130 at \$5.25, 1 do weighing 980 at \$4.25, 1 heifer weighing 650 at \$6.25; to Hammond, S. & Co. 2 steers av 970 at \$6.50, 2 do av 570 at \$5.25.

Sandall sold Wyness 3 cows av 1080 at \$3.25, 9 butchers av 790 at \$5. Weeks sold Newton B. Co. 19 butchers av 870 at \$6.50, 6 cows av 1053 at \$5.15, 3 do av 840 at \$4, 11 do av 856 at \$3.80, 1 do weighing 1020 at \$4.

Goose sold same 6 cows av 905 at \$4.50, 1 bull weighing 1130 at \$6, 1 do weighing 800 at \$5.50.

Veal Calves.

Receipts, 411. Good grades 50c, common, 75c@81 lower. Best, \$9@11; common, \$4@8.50.

Bishop, B. & H. sold Goose 1 weighing 230 at \$6, 4 av 145 at \$8, 1 weighing 100 at \$7, 1 weighing 130 at \$9, 3 av 95 at \$7.50, 1 weighing 200 at \$6.50, 1 weighing 110 at \$8, 12 av 125 at \$9; to Parker, W. & Co. 3 av 135 at \$10, 2 av 180 at \$10.50, 5 av 155 at \$10.50, 1 weighing 120 at \$10, 1 weighing 110 at \$8.

Spicer & R. sold Rattkowsky 1 weighing 130 at \$9.50, 2 av 240 at \$7, 5 av 120 at \$9; to Mich. B. Co. 6 av 125 at \$8.50; to Burnstine 3 av 150 at \$8.50, 4 av 145 at \$10.50, 1 weighing 230 at \$10, 1 weighing 110 at \$10.

Roe Com. Co. sold Thompson Bros. 1 weighing 120 at \$10.50.

Sheep and Lambs.

Receipts, 4407. Market 50c lower on lambs; sheep steady. Best lambs, \$8.50@8.80; fair to good lambs, \$7@8.25; light to common lambs, \$5.50@6.50; fair to good sheep, \$4@5; culls and common, \$2.75@3.25.

Spicer & R. sold Sullivan P. Co. 16 lambs av 65 at \$7, 11 sheep av 100 at \$3.25, 7 do av 95 at \$3, 27 lambs av 67 at \$5.50, 17 do av 55 at \$7, 29 do av 60 at \$6.50, 5 sheep av 120 at \$4.50; to Nagle P. Co. 193 lambs av 80 at \$9, 133 do av 75 at \$8.65, 45 do av 75 at \$8.50, 52 sheep av 120 at \$4.75, 37 do av 75 at \$8.50; to Bray 42 lambs av 78 at \$8.85; to Mich. B. Co. 37 sheep av 90 at \$4.50, 31 do av 115 at \$4.75.

Bishop, B. & H. sold Young 45 sheep av 130 at \$5.25, 15 do av 125 at \$4.75; to Nagle P. Co. 22 do av 90 at \$5.25, 32 lambs av 70 at \$8.35; to Smith 19 do av 57 at \$8, 22 do av 93 at \$9, 41 do av 80 at \$9; to Parker, W. & Co. 6 sheep av 105 at \$3.50, 10 do av 87 at \$3.50; to Davis 113 lambs av 85 at \$9, 12 do av 45 at \$7, 9 sheep av 105 at \$4.75; to Bray 14 do av 90 at \$3.75, 6 do av 100 at \$5, 10 lambs av 76 at \$8.50, 148 do av 65 at \$8.25, 19 sheep av 95 at \$3.50, 18 lambs av 70 at \$8.60; to Young 40 do av 60 at \$8, 23 do

av 67 at \$8; to Mich. B. Co. 15 do av 45 at \$5.75, 35 do av 50 at \$6.50, 46 sheep av 90 at \$4.50, 8 do av 110 at \$4.50, 9 do av 58 at \$6, 207 lambs av 75 at \$8.80.

Roe Com. Co. sold Thompson Bros. 10 lambs av 76 at \$8.25, 27 sheep av 80 at \$4.75, 3 do av 80 at \$3; to Newton B. Co. 34 do av 70 at \$4.25, 16 lambs av 68 at \$6.25; to Barlage 7 do av 58 at \$8, 1 sheep weighing 80 at \$3.50, 12 do av 80 at \$3.50, 59 do av 90 at \$5.

Sandall sold Bray 34 lambs av 75 at \$8. Same sold Thompson 11 lambs av 57 at \$6, 14 sheep av 105 at \$4.

Hogs.

Receipts, 4026. Market steady at last week's prices; 5¢@10c higher than on Wednesday.

Range of prices: Light to good butchers, \$7.40@7.45; pigs, \$7.35@7.40; light Yorkers, \$7.35@7.40.

Bishop, B. & H. sold Hammond, S. & Co. 2800 av 180 at \$7.40.

Roe Com. Co. sold Sullivan P. Co. 401 av 200 at \$7.40, 50 av 150 at \$7.35.

Spicer & R. sold Parker, W. & Co. 710 av 190 at \$7.40.

Friday's Market.

January 17, 1913.

Cattle.

Receipts this week, 2114; last week, 2318. Market steady at Thursday's prices. Best steers, \$7.80; steers and heifers, 1000 to 1200, \$6.50@7.50; do. 800 to 1000, \$6@7; do. that are fat, 500 to 700 \$5@6; choice fat cows, \$5.50@6; good do., \$4.75@5; common do., \$4.25@4.50; canners \$3.50@4.20; choice heavy bulls, \$6@6.25; fair to good bologna bulls, \$5.50@6; stock bulls, \$4.50@5; milkers, large, young medium age, \$5@65; common milkers, \$35@45.

Veal Calves.

Receipts this week, 615; last week, 778. Market steady at Thursday's prices. Best \$9.50@11; others, \$4@8.75. Milch cows and springers steady.

Sheep and Lambs.

Receipts this week, 6080; last week, 6791. Market steady at Thursday's decline. Best lambs, \$8.50; fair to good do. \$7.50@8; light to common lambs, \$5.50@7; fair to good sheep, \$4.50@5; culls and common, \$2@3.50.

Hogs.

Receipts this week, 6497; last week, 9432. Market 10c higher than on Thursday. Light to good butchers, \$7.50; pigs, \$7.50; light Yorkers, \$7.50; stags one-third off.

It is stated on good authority that eastern sections of the country are feeding from 25 to 50 per cent fewer sheep and lambs than a year ago, with a reduction of from 25 to 35 per cent in Michigan, Indiana and Ohio and scarcely any feeding in the state of New York, so far as western lambs are concerned. Many sheep feeders stayed out because they thought prices for feeders were too high at the time when stocking-up is done. Most of the sheepmen who remained out of the business now see their mistake, with prices extraordinarily high for fat stock and every promise of going still higher. Michigan sheepmen are buying corn in the vicinity of Durand for about 50c per bushel laid down at the unloading station, which is about 15c lower than a year ago, while clover hay costs them but \$8@9 per ton, against \$16 one year ago.

The quality of the cattle offering at Detroit yards Thursday was common and the trade opened very dull at a decline of from 15 to 25 cents from last week on everything but canners, and bulls held full steady with last week. The local wholesalers say the meat trade is very bad, due largely to the warm weather, and one large dealer stated that where his city salesmen usually would sell 15 cattle a day, this week his sales have not averaged half this amount. Stock of all kind is very high and the consumer is not buying their usual amount and will not till prices decline. The quality of veal calves is very common, in fact the poorest seen here in a very long time.

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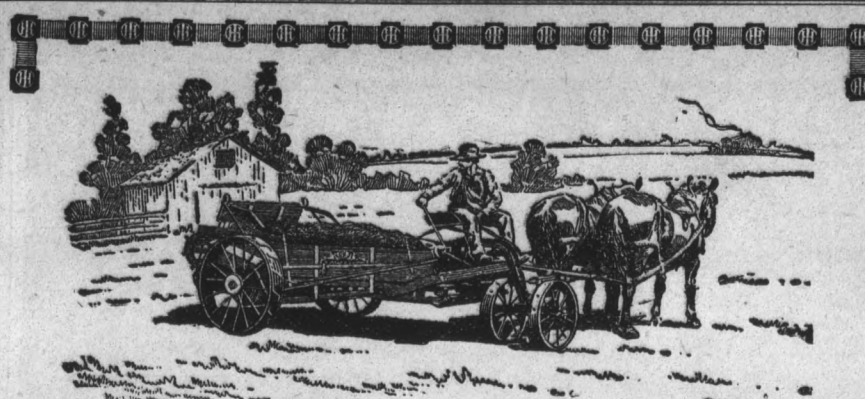
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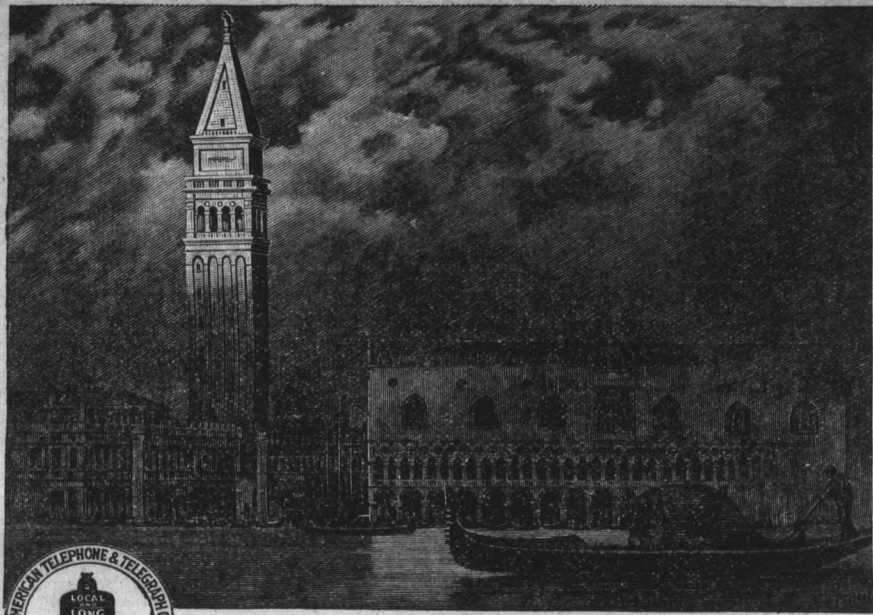
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Women and Her Needs. At Home and Elsewhere.

The Sin of Criticism

A lecturer once told a story illustrative of the powers of criticism. Satan set out to see what he could do if he really tried whole-heartedly to wreck the happiness of humans. For his machinations he selected an old couple who had lived happily together for 50 years, and who were now surrounded in their declining years by children and grandchildren. They had enough and to spare of this world's goods, and each was devotion itself. To start the rift in the lute his Satanic majesty chose the gentle art of criticism.

It seems the old lady had a wart on her nose. It was a small and unoffending wart that had been with her all her life. She had had that wart in the days when her husband courted her, and all those years when the children were growing up and the grandchildren were playing about her knees. But her husband had never noticed it. He may have been too busy, or it may have been an oversight. Anyway he never saw the wart until the evening of their golden wedding anniversary. As they sat side by side before the fire he looked at his wife as we sometimes do at our dear ones, with eyes that suddenly see them as if for the first time, and he saw that wart. Now it was really only a very small affair, but because the old man had never seen it before it appeared very large to him, a blemish on an otherwise perfect face. And the longer he looked and said nothing, the larger it grew to his imagination.

He tried to look at something else, to think of something else, but always his eyes were drawn back to his wife's nose. Finally in his exasperation he got up and went to bed, hoping it wouldn't be so noticeable in the morning. But in the morning, to his great irritation it loomed up as large as ever. Try as he would he couldn't get away from that wart. It followed him everywhere he went, it got between him and the newspaper, and even leered at him from the pages of the Bible. He never said anything to his wife about it, if he had she would probably have laughed it off and poked so much fun at him for never having noticed it before that he would have been shamed into forgetting it. Instead he just kept thinking about it and feeling cross at his wife for not being entirely perfect. The thing got on his nerves so terribly that he determined to make an end of it. He decided that the best way to do it was to cut the wart off sometime when she was asleep, so accordingly he slipped the butcher knife under his pillow that night and decided to perform the operation in the morning before his wife awakened.

Early the next morning he arose and made ready. Unfortunately just as he had the knife poised his wife awakened suddenly and seeing him brandishing the knife just above her face thought he had gone mad and was about to kill her. She screamed, jumped, and startled the old man so that in his excitement he did cut her throat.

Of course, it is only a story, but just as terrible things in life happen every day through criticism. Few of us are actually killed outright by it, and few of us murder our dear ones as a result of weeks of criticism. But we slay all that is bright and beautiful in many a life by our unjust and uncalled for criticisms. Especially between husbands and wives is criticism fatal. Love is always blind and in the ecstasy of courting faults are either entirely unnoticed or forgiven without a thought. It is later when the real test comes of adjusting two lives to run with the least friction that blemishes and defects loom up as large as mountains. The perfect soul mate we thought we had found turns out to be a very human individual with faults, provoking habits large feet and hands and perhaps a bald head.

Perhaps many of the faults could be corrected, but they will never be corrected because someone nags, which is another word for criticism. Some of the things we object to are really of no moment at all, they annoy us, but they do no one any positive harm. The only sane thing to do is to put them out of our minds. Husband drips cream and milk out of the pitcher and invariably spills the gravy every time we put on a clean cloth. It is provoking, I'll own, but it

isn't at all likely he did it with malice aforethought. Why not forget it instead of berating him for his carelessness? Wife has a penchant for Mother Hubbards, when husband things shirt waists and skirts should be her daily toilet. I'll agree heartily with husband, but as it is the wife who has to make, wash, iron and wear the garment, why not leave her free to dress as she likes, without constantly telling her what some other woman wears?

These are little things to consider, but it is just such little things that cause half the irritations and sharp words in households. There is too much desire on each side to have everything go according to the one way of thinking; too little willingness to each go half way and remember that flesh is frail and full of foibles.

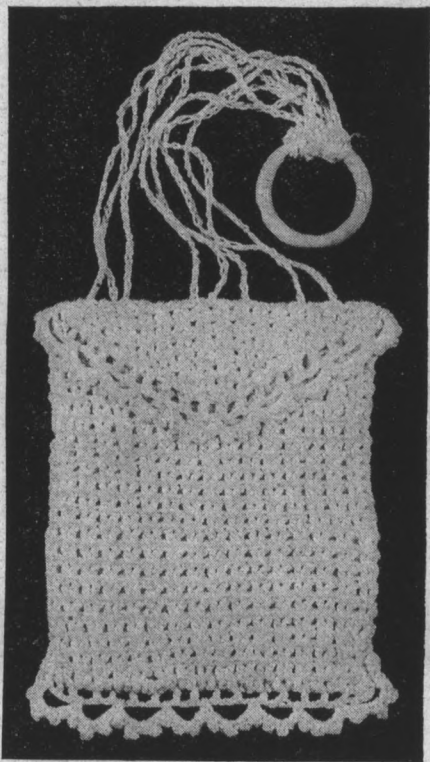
Let us cease criticism. It never does any good and it always does harm, not only to the one criticised but to the one who criticises.

DEBORAH.

SIMPLE CROCHET COIN PURSE.

BY MAE Y. MAHAFFY.

One frequently feels that a large purse is too obtrusive in attending church or other places where only the door key and a few coins are needed, and the purse illustrated is intended to solve just such dilemmas. It is light in weight, may be made of any color to suit the costume, or white, and will even include a folded handkerchief in its list of contents if



necessary. The ring should be just large enough to slip over the glover finger, so that there is no danger of losing it.

D. M. C. Cordonnet No. 5 is a desirable material to use, although any medium fine crochet cotton may be substituted. The work is begun at the bottom of the purse by making a chain of 32 stitches. Then chain two more for the turn, and double crochet (dc), into the 32nd stitch of the chain. Dc twice into every other chain stitch back across the row, and turn and proceed in the same way on the other side of the chain, so that the two halves of the purse are made on the one chain. Continue thus round and round for 22 rows.

On the front of the purse, which is the short side, a shallow scallop is now worked by placing a single crochet (sc), between the dc stitches forming one edge. Skip one pair of dc stitches, and dc twice into space between next pairs, chain one stitch, and dc twice into same space; skip two dc, and sc into space between next pairs, and so on across the one-half of purse. On the other side, which is to form the envelope-like flap, the work is continued just as in the body of the purse, dropping one pair of dc stitches at each edge of every row, so that the work gradually narrows until but two pairs of dc stitches are left. Fasten off the thread.

The scallops must now be placed across

ONE MOTHER'S WAY.

BY CORA A. MATSON DOLSON.

"When you have a home of your own, my dear,
You can manage just as you please;
But we always have eaten our meals out
here,
And you are too old to tease.

"We would not have a nice china set
If we used this every day;
'Twould be nicked, and faded from soap
and wet—
It is safer packed away.

"Of course, when you have a home of
your own,
You can do these things as you wish;
But as wholesome food as I've ever
known.
Was served from a plain white dish.

"Tis nothing to me that Mrs. DeLine
Lets Ruth use her best every day,
The things in this house are not yours,
but mine;
And here I will have my way.

"What is it you're saying, you wayward
child?
'You'll get married as quick as you
can!
Well, unless you can alter these notions
wild,
You will need a very rich man."

the bottom of the purse and around the flap. Do one stitch at the edge, chain two stitches, then dc into space between second and third dc of main work, and thus across bottom, or around the flap, making a block-like effect of open squares. Turn by crocheting chain of five stitches, and sc into second open block. Chain five and sc into second block beyond, and so on across. Turn and sc three stitches into loop, picot with two chain stitches only, sc three more, picot again, sc three more, and begin in second loop, making all loops in this manner.

The body of the purse is now complete, and the cords to hold it together must be made. An ivory ring is desirable, but if not at hand a crocheted ring may be made by winding the thread around some circular object about the size of a quarter several times, and then single crocheting over these threads very closely until the circle is complete.

For the first chain fasten the thread at one corner of the flap on the under side securely. Chain about four inches and break off the thread, leaving ample length for fastening around the ring. Push this chain through from the front to the back of purse between two of the double crocheted stitches near the edge, using two which correspond in front and back, and then fasten the free end around the ring. Make a similar chain for the opposite edge of purse. Three pairs of chains are then placed between these. Fasten the thread to the ring between the chains already placed, and chain about twice the length previously made. Break thread and push this chain through from back to front, carry it over one pair of double crocheted stitches and back to back of purse again, and then fasten remaining end to ring beside first end. Make two more chains in this way, running them through the purse at regular intervals across its width at top, fastening them in turn to the ring, so they will be between those forming the edges; and will not be twisted or crossed. By drawing on the ring these chains close the purse snugly, and by loosening them it is opened readily.

EASY WAY TO DRESS DUCKS AND GESE.

Here is a comparatively new and very simple way of preparing or rather, finishing, ducks and geese for the market. Dressing these downy creatures is difficult at best and anything which helps the operator's tired, often lame and tender, fingers, ought to be known and practiced. The following method is now used by some of the marketmen, and was told me by one of them, but should by no means be kept a trade secret.

After the feathers and as much of the down as can easily be removed has been plucked, the fowl's body is completely dusted over with finely powdered rosin, just the ordinary sort being used. The marketman's way of applying the powder is to have ready a large tin lard can about a quarter full of the rosin and into this dip the duck or goose. After getting the body well dusted, he then dips it for a moment into scalding water and while it cools rubs off the last traces of fuzz and down. The cold rosin does not remain on the fowl nor on one's hands.

An old proverb reads: "There is more than one way through the woods." The marketman's lard can is all very well for a large number of fowls, but is unnecessary for many farmers who kill only a few at a time. Now, what about the paper sack which ye good housewife uses when she wishes to cover

her doughnuts with powdered sugar? The fowl and powdered rosin could easily be shaken up in a big paper bag just like the doughnuts.—X. Y. Z.

HOME QUERIES.

Household Editor:—Can you suggest a way to use up bits of cold meat?—Mrs. T.
Remove fat and pieces of gristle and put the meat in a basin with stock or boiling water to cover. Simmer on the stove while you make a good biscuit dough. Then thicken the liquid on the meat and drop the dough by spoonfuls into the gravy. Bake in a hot oven until the dough is done. This is a welcome variation from meat pie.

Household Editor:—How should the silver be arranged at a formal dinner?—M. X.

With the exception of the oyster fork the forks should all be on the left of the plate, the one to be used first being placed farthest from the plate. They should be placed with the points of the tines up. The oyster fork, spoons and knives are to be placed at the right side, the oyster fork farthest, the piece of silver to be used in the next course next to it, and so on to the plate, the silver for the last course always being nearest the plate.

Household Editor:—Can you suggest a diet for a nervous person?—Hysteria.

A person afflicted with nervous trouble should eat as little sugar as possible and avoid tea, coffee and alcoholic drinks. All rich foods, as puddings, greasy gravies and rich sauces and pastry should be avoided. Instead eat freely of eggs, milk, good beef and mutton, oatmeal, farina, rice and the other cereals. Avoid hot bread and biscuit and hot buttered toast. Dry toast or zwieback may be taken, and whole wheat bread is very good. Too much sugar causes acid in the stomach which upsets the digestion and injures the nerves. Be sure that the sleeping-room is well ventilated, and take long walks daily.

Household Editor:—How much should a baby weigh at one year old?—Young Mother.

The average weight is 21 pounds. If the baby is perfectly well there need be no alarm if it weighs a few pounds less or more.

Household Editor:—Can you give me a recipe for making Swiss or brick cheese?—M. J. F.

Household Editor:—Will someone please give the latest directions for a wool yarn crochet cap, the kind of yarn used and how much required? I would like the picture given if possible.—Miss C. C. E.

FASHIONS BY MAY MANTON.

Our large Fashion Book for fall of 1912—containing 92 pages illustrating over 700 of the season's latest styles, and devoting several pages to embroidery designs, will be sent to any address on receipt of 10 cents.



No. 7638—Four-gored Petticoat, 22 to 32 waist. With or without plaited frill.
No. 7630—Surplice Blouse, 34 to 40 bust. With long or three-quarter sleeves, with or without lining.

No. 7616—Semi-Princess Gown, 34 to 46 bust. With square or high neck, long or elbow sleeves, skirt can be made in two or four pieces.

No. 7629—Girl's Naval Blouse Dress, 6 to 12 years. With straight skirt that can be plaited or gathered, with blouse that can be worn over the skirt or finished at the waist line, with or without applied yoke and shield, with long or short sleeves in "set-in" style.

No. 7412—Boy's Russian Suit, 2 to 6 years, with round or standing collar.

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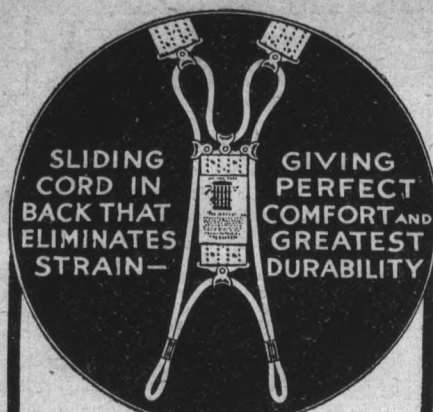
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BRAMBLE HILL

By ROBERT CARLTON BROWN.

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Mouths gaped and hung uselessly open. There wasn't a word spoken. The train was already quivering for a start. No-body got off, except the conductor and a brakeman. She hadn't come.

Then, all of a sudden a young lady, gowned in a smooth-fitting gray traveling suit of faultless cut, stepped down from a middle coach, stood on the platform and looked anxiously around, trying to jerk up a neat gray silk parasol against the drizzle.

Sid was first to recognize her. He dashed forward and took the suitcase from the conductor's hand. Then he dropped it and caught all of the girl's gloved fingers in an enthusiastic squeeze.

"Oh, Jerusha!" he cried. It seemed so like old times, and he wasn't a bit awed by the change in her, only impressed and enthusiastic. "You're as pretty as a—soubrette!" he finished with a laugh.

"And you're—oh, I hoped you would be! You're just the same," she said and then turned from Sid to Watts who came running up and wrapped her in his embrace.

It was all very wonderful to the goggle-eyed village fathers. They didn't know her. Dress makes a difference. Was this patrician young lady with the wrinkleless skirt and oh-so-becoming hat really little Jerusha Watts, who had struggled along between milk pails and wash tubs? Was this Jerusha Watts?

She was being borne between Sid, Watts, Mother Hubbard and Hornbill to the carriage, where Oley waited with a welcome in his grin-open mouth.

"Oh, hello Hermann!" the girl paused right in the rain and thrust out her hand to the station agent.

He dropped his express package in the surprise of it, wiped a broad palm on the shining knee of his overalls, his cheeks flushed till they matched his bandana, then he seized upon her hand with both of his, as though he were catching a base ball, and bowed profoundly: "Much obliged to meet you," he said impressively.

She stopped to greet Bud and Niles Pash and bow to Lafe Turner. Then she was helped into the rig; Watts and Mother Hubbard got in, one on each side of her, Hornbill in front with Oley and, with Sid standing on the step, Oley clucked to the horse and the triumphant carriage swung off up Main street, through the April drizzle.

The village fathers, recollecting that it was still misting (and some even without their gum shoes) passed each other silently, lonesomely, after watching the carriage out of sight, trotting off in diverging directions, after the manner of chickens with dragged feathers.

Miraculously they met on the front porch of Niles Pash's store. Niles was back already, the door open and the money in the till.

Stimpson was last to arrive. The other fathers were sitting in rather uncomfortable, choky silence.

When Stimpson was at last seated and Ed Humphrey had slumped down under a new eaves' trickle, Lafe Turner remarked: "Did ye see Jerushy Watts? She's back all right. Got more manners than a stage heroine, an' did ye see the way she made up to Hermann, an' the tradin' stamps on her suitcase?"

"Those ain't tradin' stamps. They're furrin hotel stamps. She's been to Paris; I seen one that said London on it, too. Besides, it looked ter me as though she made up a lot more to Sid than she did to Hermann," pouted Ed Humphrey in a thick, flabby tone.

Aloisious Stimpson cleared his throat and thus effectively blocked a conjecture fomenting in the mouth of one of the more rejiring fathers.

"I happened to be at the station—huuh—on a little matter of business, an' I seen Jerushy Watts come in. She looked right smart. I took particular notice, too, of her dividin' her attentions between Sid an' Hermann, an' I took notice, too, of them tags. In my opinion Ed's right for once. I don't know where she's been or what she's been doin'; but turned ef I don't think it's a suspicious circum-

stance for a young lady to come back to town all dressed up and looking as pretty as a peach, an' with all that evidence on the suitcase against her, an' bowin' an' smilin' to young fellers like Sid and Hermann an' payin' no attention at all to her elders. It ain't civil. Anyways, I

don't see no proof in her looks that she didn't run away with a drummer."

"Well, he must a been a pretty rich drummer," allowed Niles Pash. "Them clothes she's wearin' didn't come out of no drummer's stock that I ever see. Appearances may be against her, but I'm for her!"

"That ain't no argiment. That's jest an opinion," remarked Aloisious Stimpson. "I say, a fair hearin' to all; let Jerushy speak for herself; but them hotel tags, them clothes, an' shinin' up to them young fellers are a powerful argiment against her."

"Yes, they be," allowed the Rhesus-faced, who would have made an admirable Boswell; oh, such a nice, painstaking little Boswell.

Chapter XII.—A Will in the Way.

A year and a half. Jerusha could only believe she had been gone that long when she found Watts holding the Pike County Vigilant nearer his eyes, with hands slightly more tremble, and the gray of his hair nodding over the newspaper fast edging into white.

That joyous day of arrival was not complete until she had adroitly managed to leave early after the elaborate supper good Mother Hubbard had prepared in her honor at the Edgeworth mansion, and slip home through the soft sifting twilight, her hand tightly clasped in Watts'. From the moment they left the Edgeworth house alone neither spoke a word. The hand pressure spoke eloquently for both as they sauntered through the mist-cool coming dusk to the little cottage.

An ecstasy of quiet, trusting love was in their silence. At the gate, (lurching outward with rickety age), Jerusha caught her breath and fingered the old, battered latch.

"Why, the handle's broken off, Watts. I must fix that first thing in the mornin'," she broke the crystal of silence.

"Yes, Jerry." Watts hovered nearer and his quaint smile, almost a benediction, gave color to his even, temperate expression of peace and content, which had spread and mellowed each minute since Jerusha had come home. "Yes, Jerry," he said. "I guess you'll find several things around the old place that'll need fixin' up. Somehow I didn't ever get around to do those things. I didn't seem to care so much, with you gone."

His lip did tremble more easily now than before; Jerusha was quick to see that. "Oh, Watts. I shouldn't have gone away. But I just had to; something pushed me on. I shouldn't have gone. You did need me."

"Yes, yes, Jerry," he reached over and caressed the back of her hand, standing still, his lips quivering in an effort to modify the intensity of the cry that finally came: "I did miss you. I did need ye, Jerry. But not half as much as you needed to get away from Turtle Creek and me. You'll find I got along pretty well for a man that's been used to the fragrance of a woman lurking somewhere about the house. But I had yer letters and yer picture, Jerry, and yer mother's, an' I had the satisfaction, too, of knowin' ye were in better hands than mine, doin' for yourself what I never could have done for ye." A beatific smile shone through the shimmer of tears in his fond eyes.

"Oh, Watts. I oughtn't to have left you alone. It was so selfish of me," she cried. "Look! The pump-handle is gone!"

"Yes, Jerry. I'm afraid I've needed you a good deal," he smiled, "but I never did seem to have the knack of fixin' things, like you."

Watts chuckled and stood peering into her glowing face, swinging both her hands in his; they seemed like a pair of care-free children.

"My!" he laughed. "How different you talk to what you look. You look like a girl in city society that wouldn't know the difference between a martingale and a surcingle, and you talk like a little country lass that would shy at a street car."

"What else do you think I am?" she cried. "Surely you're not going to be as bad as Hornbill when he passed the grease-gravy at supper tonight. Miss, will you try this on them; maybe you've never been accustomed to hot bacon drip-

its lickin' good and I can recommend it to yeh, it's one of our typical Illinois country dishes." He sounded like a Cook's tourist guide. The idea! Speaking to me as though I'd never been in the country and had grease on pancakes. Clothes don't make such a difference, do they, Watts?"

"It isn't only the clothes," he quavered admiringly, his mellow eyes measuring her. "It's your accent, your bearing, your manner—well, it's because you've grown so much faster than we back here. You're like Jack's bean stalk and we're like the ordinary dwarf bean plants. It's because you've learned so much."

"Learned so much! Nonsense!" she cried. "Why, I knew just as much two years ago."

"But you weren't sure of it them. You weren't sure of yourself. Now you have confidence—finish," answered Watts with serious satisfaction. "Why, did you notice how Sidney had to hurry to keep up with you in everything, and how he didn't remember at all the Rembrandts in the Rijk's Gallery at Amsterdam you were asking him about. He seemed confused at not remembering; I guess he's slipped back like the rest of us; I'm afraid Turtle Creek isn't any too good for him."

"Oh, don't say that. New York's a horrid place to live for always," cried Jerusha. "Besides, Sidney seems healthier, and he's stopped smoking and he sees more in the things around him, and everything." She paused, then caught Watts' arm impulsively, "Come! Sit down here; it's getting so nice and so dark and we seem to be the only ones in the world." She pulled him down on the damp, mossy boards of the well and they sat close together, like children.

"Yes, I'm blest if you don't show more for your year and a half schooling in life than Sidney himself, with all the advantages he's had, and he's as soft-spoken, as nice-mannered, as different from the rest as anybody could be—well, as different from the rest as you are." Watts gazed deep into her eyes and held her hands with a steady, fond pressure. Finally his feeling welled into words again. "My! Jerry, it does my eyes good to look at ye and watch ye. Your mother, when she was young was—you're a good deal like her, Jerry; only maybe she didn't have as good clothes, but it was only because I couldn't afford to—and she always said—well, you see—"

Watts wandered off vaguely and Jerry stopped him with a quick sympathetic pressure of his hand, as his eyes began to glisten.

"You did your best, Watts. You did your best. But don't talk like that of mother and yourself, and Sidney. If I could ever be as thoughtful and appreciative and—oh, I don't know—as gentle as you are—if I could—"

"Oh, nonsense, nonsense, child," he protested quaveringly, "why, I'm gruff, rough, unpolished, I'm a crude old bear. I—I guess it's just because you haven't seen me for so long that you're talking so foolish—" his lips twitched. "You've forgot how worthless I am. But ask any—"

"Watts!" she sat up stiff, her tone was shrill. "Don't talk like that. You know it isn't so." She subsided into silence, at length continuing, "You make my conscience squirm. I shouldn't have left you. But now that I'm really back I'll be worth more to you; I'm more capable, more able to help."

Of course you are, of course you are!" he cried. "Come, let's go in. That mist'll turn into rain and these old boards are damp. My rheumatis' an' I been fightin' it out ever since you left. Guess the rheumatis' has kind of got me on the hip, not to mention the knee joint an' several other places."

"Oh, I never thought of the damp!" she cried, jumping up. He turned toward the house as Jerusha stood looking down at the mossy boards of the well, tingling with the faint fragrance of a reverly wafted to her from what seemed almost a former life.

"Aren't you coming, Jerry?" Watts called out.

She started and laughed consciously.

"Oh, Watts. I'm going to stay here a minute; will you play that love song of Greig's. You know the one. I want to—"

"Oh, Ich Liebe Dich. Funny, I was just thinking of that! I haven't played it—not since you've been gone. Sidney seems to be afraid of that song, and he's been my audience mostly."

"You say Sidney doesn't like to hear it?" she asked quickly.

"Yes, why?"

"Oh, nothing, nothing at all," she answered positively.

(Continued next week).



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Saving strength: 1. On the farm. 2. In the house.
Recitation.
Question box on "Duties of State Officers," conducted by lecturer.
Song.

Suggestions for Second Meeting.

Song, "Merrily Sing."
Parliamentary review (Guide in Digest, first ten paragraphs).
Choice and Care of Household Utensils, a talk.
Music by orchestra.
Do we Need Better Farm Credit Facilities in Michigan? discussion.
Echoes from entertainments recently enjoyed, by three persons.
Music by orchestra.
"Six School Lunches," planned and described by a mother.
Questions on "Work of Departments of the State."
Refreshments—Sisters A., B. and C. bring two dozen sandwiches each; sisters X., Y and Z. a cake each; bachelors furnish sugar, coffee and cream.

RECALLING THE YEAR'S ACTIVITIES.

At this season, when last year's officers are giving way to their newly elected successors, it is a good plan for every Grange to review the work of the year that has gone. A report from some one of the officers, preferably the lecturer, serves to recall the year's activities to the minds of members and opens the way for suggestions and the formulation of plans for the year just ahead. A good example of such a report is that recently rendered by Lecturer R. H. Elsworth, of Grand Traverse Grange, which, incidentally, reveals a high order of activity on the part of the lecturer and the members generally. The report reads:

In several respects the past year has been the best in the history of Grand Traverse Grange. Not a single meeting has been missed. There has been a literary program at every meeting save one, and then the failure was because of election of officers.

Four special days have been observed with extra elaborate programs. These were a St. Valentine program, Children's day exercises, a Ceres program and a Pomona program. On each occasion the Grange hall was attractively decorated and invited friends permitted to enjoy the treat. The day that St. Valentine held sway, all drew tender love messages from a big box; children's day was made memorable with a dinner and recitations; the Ceres and Pomona programs consisted of recitations appropriate to the goddesses of grain and fruits respectively.

In the spring a series of agricultural programs was carried out, the series including the following topics: "Soil Fertility," "Stock Raising," "Poultry Raising," "Starting an Orchard," "Care of the Orchard," "Better Prices for Farm Products."

Representatives of both the Michigan Agricultural College and the federal department of agriculture gave addresses during the year. Comfort A. Tyler, of the College, spoke upon the subject of "Forestry," and M. J. Thompson, district supervisor of the farm management work being conducted by the federal government, gave a talk in which he told what the government is trying to do. Two men informed upon different phases of the marketing problem presented ideas regarding the outlook for better prices for fruits.

Among other subjects of more than usual interest were the following: "Remain in Michigan," "A Square Deal from the Office Holder," "Short Cuts in Harvesting," "The Grand Traverse Region Fair," "Equal Rights for Women," "Elections, Past and Future," and "County Agricultural Schools."

The objects of the program work have been two, namely, to get the members of the order to thinking along lines that demand special thought, and, second, to get patrons in the habit of talking in meeting. As a result of the latter endeavor there are few members of the local subordinate, except those who have recently joined, but what can express themselves intelligently, forcefully and publicly upon the more important questions of the day.

The Grange is a many-sided institution, but its most important function is its educational work which finds expression in the programs. Along this line Grand Traverse is one of the strong Granges of the entire state.

COMING EVENTS.

Pomona Meetings.
Western (Ottawa Co.) Pomona, with Georgetown Grange in Georgetown, Friday and Saturday, Jan. 24 and 25.

Cass Co. in court house at Cassopolis, Thursday, Jan. 30. Election and installation of officers.

Eaton-Barry Bi-county Mid-winter Rally, in Masonic Temple, Charlotte, Saturday, Jan. 25. Eaton patrons make return visit on March 1.

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You can make big O-A-T-S money on your farm if you plant the right seed. Seed is everything, yet the smallest expense of farming. Last year those who planted our O-A-T-S got great crops—Nymeyer, Oak Harbor, Wash., 95 bushels to acre; Gling, Almos, Colo., 141½ bushels to acre (largest yield ever recorded); Richards, Dalton, Mich., 82½ bushels; Barnes, St. Anthony, Idaho, 119½ bushels—often more than double, sometimes triple their own common oats produced from same land. Our Free Book gives details—just packed with useful information.



This Seed O-A-T-S Germinates Nearly 100%

Every seed sprouting, vigorous, hardy, full of life—with large kernels and thin hulls—not "weaklings" that yield only half crops at threshing time. Our famous Swedish Regenerated Seed O-A-T-S are grown on Galloway Bros. 1920-acre Canadian Farm from virgin soil. These oats weigh 48 lbs. to the bushel. Think of that! Plant these O-A-T-S this Spring and get this big O-A-T-S money in 1913.

FREE Book and Samples

Our wonderful book "BIG MONEY IN OATS AND HOW TO GROW THEM" tells all about these Seed O-A-T-S, how to plant, cultivate, and pocket the big O-A-T-S money. You can have it FREE. For 10 cents, to cover packing and mailing, we send a large FREE packet of our Big Money Seed O-A-T-S. For 25 cents a triple size packet. For 50 cents packet three times 25 cent size. The empty packets will be accepted as cash, to apply on your future orders. Write us at once.

GALLOWAY BROS.-BOWMAN CO.
Seed Oat Specialists, Box 642A, Waterloo, Iowa



Young Man Wants Situation On Farm.

Experienced. Good worker. Steady and reliable. State wages. Address: Geo Bamford, 232 King Ave., Detroit.

WANTED—A good man to work farm near Dexter, Michigan, on shares. Possession given March 1st. Address Mrs. LOUISE M. GATES, Bay City, Mich.

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Man of experience. Bachelor or widower, to board in home of farm manager. Experienced in fruit growing in all its phases; pruning, spraying, marketing, etc.; competent to assist in management of dairy, gardening and general farming. Permanent position. Must be temperate, steady and industrious. Farm located in Western Michigan. State experience, age, nationality and salary expected. Address, FRANK B. WHITE, 533 No. Kenilworth Ave., Oak Park, Ill.

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"Teddy," George Cooper,
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"Patsy," Rena Smith,
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"Don," Oliver Olsen,
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"Queenie," S. J. Mallick,
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"Sparkie," Eloise Savage,
Coddington Co., S. D.



"Justin," Norma Thorsen,
Palo Alto Co., Ia.



"St. Nick," Marcella Con-
ley, Chickasaw Co., Ia.



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83 SHETLAND PONIES 83

WE HAVE
GIVEN AWAY FREE

AREN'T they a happy looking crowd of boys and girls? We know they are happy and proud, too, of the dandy little ponies which we have given them absolutely free. Notice we print the names of 24 of the 83 boys and girls to whom we have given ponies for winning our contests, which we wouldn't dare do if it were not true that we give away real, live Shetland Ponies. We haven't room to print all 83 names but we will send them to you as soon as we hear from you. Read the rest of this page carefully to see how you may get a pony free for yourself. And then don't fail to sit right down and write us for our ponies are awfully easy to win and you have as good a chance to get one as any other boy or girl.

NEXT! THIS PONY FREE NEXT!

With Complete Outfit Shown Below

WE WILL GIVE YOU OR SOME
OTHER BOY OR GIRL THIS
PONY WITH COMPLETE
OUTFIT JUST AS IT
LOOKS HERE



Send Us Your Name Today
If You Want to Own "Dapple"

As soon as we hear from you we will tell you how to become a contestant for "Dapple." Don't let anybody persuade you that you cannot win this pony because our plan of giving ponies away is different from others. The fact that we have given ponies to eighty-three boys and girls all over the United States from the State of New York to the State of Washington already is proof that we give them away. The Webb Publishing Company publishes The Farmer's Wife and The Farmer. The banker or postmaster in your town knows that we are one of the largest publishing houses in the United States, established for 30 years, so we can well afford to give ponies to boys and girls to advertise our papers. We never heard of one of these 83 boys and girls until they wrote and told us they wanted a pony which shows how fair and square our pony contests are and that no matter where the winner lives "Dapple" will be sent without any cost to him. We will also send you 1000 votes toward winning "Dapple" and if you write promptly we have a surprise for you which will double your chances of winning one of our Shetland Ponies. The first thing our 83 Lucky Winners did was to send us their names and addresses which you must do if you want us to send you "Dapple."

Cut Out This Coupon and Mail Today

SEND YOUR NAME TODAY

Our ponies are given away so quickly that you will stand a better chance to get this one if you sit right down and write us a letter or a postal card or send the coupon opposite filled out with your name and address (either way will be all right). The work we require you to do to become a contestant for "Dapple" is something that any boy or girl who could drive a pony can do, and any child who becomes a contestant will win a fine prize, even if he fails to win "Dapple" which is the best prize of all.

Be Sure To Address Your Postal Card or Envelope

THE FARMER'S WIFE, 323 Webb Bldg., St. Paul, Minn.

Please send me Certificate of Entry and pictures of "DAPPLE" and tell me how to take care of Shetland Ponies. I haven't any Shetland Pony and want to own "DAPPLE."

Name _____ R. F. D. _____
P. O. _____ State _____

This Coupon is Good for 1000 Votes for "Dapple."

THE FARMER'S WIFE

323 WEBB BUILDING, SAINT PAUL, MINNESOTA

Every Contestant a Prize Winner

All contestants will surely get a prize of their own choosing from a list which we will send you. Besides the Pony Outfit and Twenty-five Grand Prizes we shall offer Gold Watches, Base Ball Outfits, Gold Bracelets, Fountain Pens, Hand Bags, Flash Lights, Rifles, Shot Guns and dozens of other desirable prizes. If you become an enrolled contestant in this Pony Contest you can't lose. But don't let anyone persuade you that you can't win "Dapple" because you have the same chance as any other child.

THE OUTFIT

And best of all we send with "Dapple" the complete Pony Outfit just as you see it in the picture. Besides the Pony, the Pony Buggy and the Harness shown we send a Saddle and Bridle, which would make you the most complete outfit that money could buy. You could ride horse-back or take all your boy and girl friends driving everywhere. No child no matter how rich his parents may be owns a nobbler or more desirable pony and outfit than this one which we shall send with all freight and express charges paid. This is surely the best chance you ever had to get a Shetland Pony, so send your name and address to us right now so it will be sure to get to us quickly.



"Prince," Norris Nupson,
Fillmore Co., Minn.



"Jack," Bernice Harvey,
Union Co., Ia.



"Babe," Roy Brown,
Cook Co., S. Dak.



"Sport," Fred Hagerman,
DuPage Co., Ill.



"Trixie," Frank Harris,
Yellowstone Co., Mont.



"Fritzie," Marie & Margie
Parker, Knox Co., Ill.



"Foxy," Chas. McCoy,
Story Co., Ia.

WANT
ONE
FREE