

MICHIGAN FARMER

AND
LIVE STOCK
PUBLISHED WEEKLY.

JOURNAL.
ESTABLISHED 1843.

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

VOL. CXLII, No. 2.
Whole Number 3765.

DETROIT, MICH., SATURDAY, JAN. 10, 1914.

\$50 CENTS A YEAR.
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Foreign Potato Diseases and the Quarantine.

A Description of the Wart Disease and Powdery Scab, now Prevalent in Many Countries.

WITH a quarantine in force against the importation of foreign-grown potatoes on account of the danger of importing infected seed and thus introducing and spreading in this country two serious potato diseases now becoming common in the old world and in parts of the western hemisphere, Michigan Farmer readers will naturally be interested in learning something about these diseases. To the end that they may become acquainted with their manifestations and be prepared to recognize them should they by chance be introduced from across the border, we have secured as accurate descriptions and illustrations of them as possible. For the illustration and description of the wart disease, now quite common in Europe, Newfoundland and some of the islands of the St. Lawrence River, we are indebted to a publication of the Board of Agriculture for Scotland, secured through the courtesy of a Chicago firm dealing in both domestic and foreign potatoes, while the illustration and description of the powdery scab is taken from a Department of Agriculture publication.

The Wart Disease.

This disease, as will be readily seen from the accompanying illustrations, is caused by a fungus which attacks the tuber. This fungus is known by various local names which are descriptive of its appearance, such as Wart Disease, Cauliflower Disease, Black Scab, and Potato Canker. Its scientific name is *Synchytrium Endobioticum*, (Percival). When the disease is once established in the soil this is a very serious disease, causing sometimes a total loss of the crop and becoming a serious menace to a large area, hence the wisdom of taking every precaution to prevent its getting a foothold in this country.

The method by which the disease attacks the tuber is peculiar to the disease. The fungus can only gain an entrance into the tubers at the eyes of the young, undeveloped sprouts, where by its irritating presence it causes the growth of the warty excrescences which are so apparent in the illustrations. One eye only of the tuber may be affected and that so slightly that the presence of the fungus would not be noticed by an ordinary examination, which illustrates the impracticability of keeping it out of the country by any system of inspection if foreign grown potatoes were admitted to the country from infected districts. Generally, however, the outgrowth is distinctly noticeable and where the attack has been severe all the eyes may be affected and the warty growth in evidence as in the specimens shown in the illustrations. And not only the tubers, but the buds on the underground tuber-bearing shoots may be invaded and the warty growths develop on these as well, as shown in the illustrations, which fact increases the danger of the spread of the disease. Even the haulms above the soil level may show the growth and in some instances the appearance of greenish white masses of fungus at this point is the first indication of the presence of the disease. At first the warts on the tubers are light brown in color, and quite firm, but they gradually darken until they become almost black and in the course of time they rot and become soft and spongy.

Life History of the Fungus.

The life history of this fungus is described as having two distinct stages, an active and resting stage. It is during the latter stage that the greatest danger of the spread of the disease into new areas

occurs. While in this stage the spores of the disease are enclosed in hard, resistant cases known as "sporangia," a large number of the spores in each case. These spores have a marked degree of vitality and may lie dormant in the soil for at least six years and still retain their power of infecting a potato crop. While in this stage they may be imported into a new area either by the use of infected seed, or by any of the common methods by which infectious diseases are carried, such as infected sacks, farm implements, manure, etc. Sooner or later in the growing season many of these spores commence to grow, bursting their

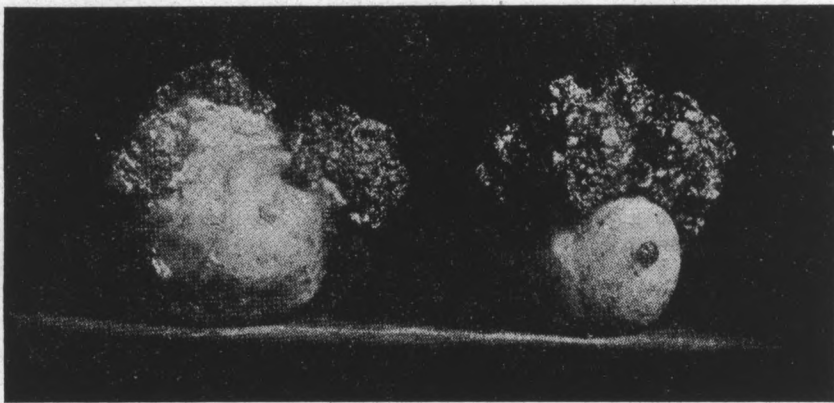
formed, with their hard, resistant coats. If the diseased material is left in the ground it soon rots and these "sporangia" pass into the surrounding soil in large numbers. Ordinary methods of tillage tend to rapidly increase infected areas, so that any infection, however slight, soon assumes considerable proportions, and when the soil becomes thoroughly polluted with the spores the production of a sound or merchantable crop of tubers is impossible for an indefinite period of time. So far no effective treatment for the eradication of the spores from the soil has been discovered other than to starve them out by devot-

ing their way to this country, precautionary measures will be of interest. Probably of these precautionary measures, the one of greatest importance to our growers is to refrain from using second-hand sacks in the handling of the crop grown upon the farm, as there is a chance that in this way the spores of the disease might be introduced. So important is the apparent need of this precaution that the United States Department of Agriculture recently issued a warning to the potato growers of the country against the use of any second-hand potato sacks unless same have been properly sterilized, not alone on account of a possible danger of the introduction of this destructive potato disease, but the greater danger of introducing a number of other diseases which have been found to be more or less common in imported potato stock, viz., the powdery scab, silver scurf, both dry and soft rots, the late blight and common scab with which all are familiar, etc. This warning is perhaps of greater interest to the potato growers of the eastern states than those of Michigan, since the larger portion of the imported stock has commonly been distributed in eastern markets, but it has been determined by Department officials that there is a considerable trade in these foreign sacks between dealers located at the ports of entry and potato shippers and dealers in the eastern states and to some extent throughout the country, which fact, together with the fact that many foreign potatoes have in the past found their way to the Detroit market, makes this precautionary measure one of interest to Michigan potato growers.

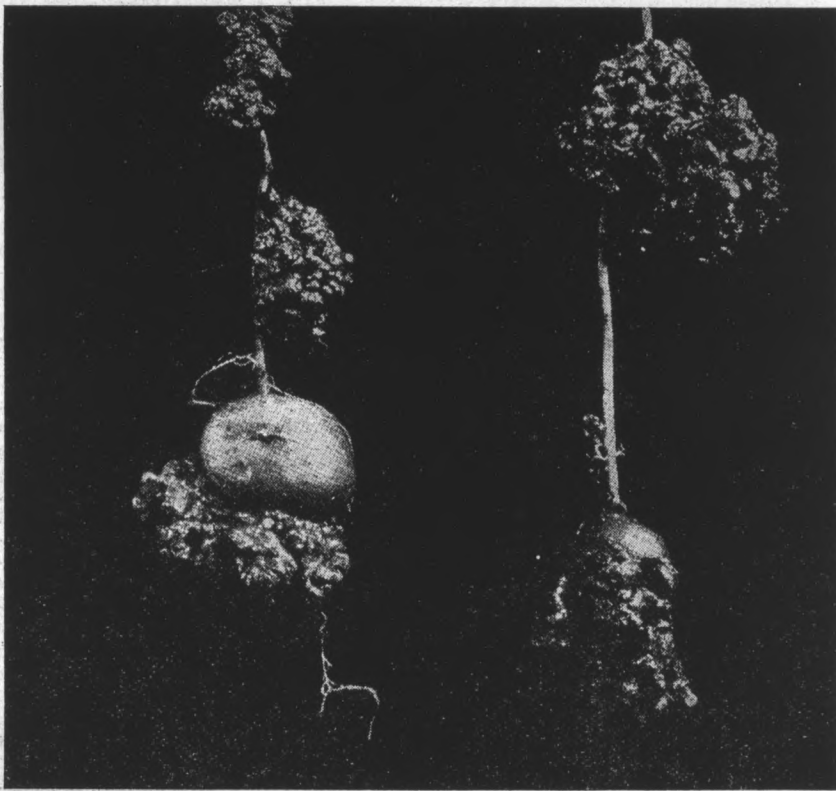
The Powdery Scab.

To the untrained eye this disease resembles the common scab of potatoes, but it is really a markedly different disease and apparently one of far greater economic importance, due to the fact that no preventive treatment, such as is in common use for the control of the common scab, has been found effective in checking its growth. While this disease is not common in the United States, it has been found in a few localities, and it is important that potato growers should be familiar with its appearance in order that infested potatoes may at once be destroyed wherever they make their appearance. It causes the formation of round pustules with raised edges, which may vary in size and number. The appearance of the diseased tubers is shown in the accompanying illustration as well as is possible in a drawing. If the pustules are numerous the whole surface of the potato may be covered and the eyes destroyed. At harvest time when the potatoes are mature these pustules contain a brown dust, which consists of countless small spore balls, which may remain alive in the soil for several years and infect future crops. The dangerous character of this disease was made evident by the testimony of pathological experts and foreign representatives at the recent hearing noted in last week's issue of the Michigan Farmer, and it is due to its prevalence in Canada as well as European countries that the quarantine against the importation of potatoes was extended to include the Dominion.

It is estimated by the Department of Agriculture that the farmers of the United States now lose over \$30,000,000 per annum from the long list of potato diseases now common in this country, several of the worst of which have come to us from foreign countries, where the de-



Tubers Showing the Fungous Growth Characteristic of the Wart Disease.



cases and infecting the crop if growing on the land, which marks the beginning of the active stage of the disease. A limited movement of the spores takes place in the moist soil, and soon the rootlets are reached and the irritation above described takes place with the resultant warty growth. Repeated infection of the same area may occur, to which fact the variation in the form of the resulting growths is attributed. During the late summer and fall the fungus within the host again passes into the resting stage and the spore cases are

ing the land to other crops for a series of years, hence the great desirability of exercising every precaution to prevent the introduction of the disease, for which purpose the quarantine has been established.

Precautionary Measures.

Inasmuch as this disease is not known to have been introduced into this country as yet, the methods of treating infected areas will not be of interest to the reader at this time, but as the recent hearing at Washington brought out the fact that infected potatoes have found



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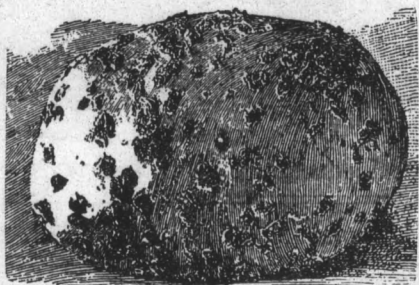
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velopment and spread of these diseases is much more rapid than in this country, on account of the greater total areas grown and the fact that many small growers plant the same ground to potatoes year after year. Our system of crop rotation has been something of a safeguard in this direction, but we have enough of these diseases now and it is the part of wisdom not only for the government, but for every grower to exer-



Typical Appearance of Powdery Scab.

cise every precaution against the introduction of others. It is for this reason that the above description of the two most serious of the prevalent foreign potato diseases is presented to Michigan Farmer readers. It is not at all probable that either of these diseases will make their appearance on any Michigan farm, but in case they do, or any grower has suspicions to that effect, he should at once take the precaution of having the field examined by an expert who will be able to determine the nature of the difficulty, since the way to check the ravages of any infectious disease, whether of plants or animals, is to act promptly at the time of its inception.

IS FARMING A PROFITABLE BUSINESS?

There has been some discussion on this subject of late in the Michigan Farmer. From experience and observation I believe much depends on the man whether there is any profit in farming or not. It is like any other kind of business, if poorly managed the profits, if any, will be correspondingly small. The farmer who buys expensive machinery, and exposes it to the weather for months at a time when not in use, will not find this very profitable. Poor seed and lack of proper preparation of the seed bed is another means of lessening the profit. In the spring especially we are apt to get in a hurry and so neglect to prepare the ground as we actually know it ought to be prepared, and the crop is shortened in consequence. I must plead guilty of having sometimes done the same thing.

The farmer cannot figure to make just such a certain per cent of profit on his investment, as can the merchant, because he has something altogether different to contend with—he is a good share of the time at the mercy of the weather. But still, by good management he can be prepared to overcome some of the unfavorable weather conditions. Take, for example, in haying time, if, instead of cutting down so much at a time that it cannot be taken care of for several days, only enough is cut down so it can be pretty well cleaned up every day, there is less danger of loss. Many other examples might be brought up to show how much depends on the management of a farm whether there is any profit in the business or not.

The problem of feeding and caring for stock, so as to keep them in a healthy and thriving condition, requires close attention, as well as study, or the profit will be small. But suppose the farmer cannot make as great a per cent of profit as the merchant figures to make, (but don't always make), he can live just as well, in fact, better, and have just about as many privileges, if he does not wear quite as nice looking clothes every day, or his hands are not so white. Every winter in nearly every city, hundreds are out of employment and have to be fed by charity. The cases where any farmer has to be helped in this manner, are very rare indeed.

The way some farmers talk and complain, it is not much wonder that many young men are not very enthusiastic about trying to buy a farm and going into the business. So many farmers lose sight of the fact that tradesmen and others in cities, with good salaries, are barely able to live, and are nearly always in debt to their groceryman. I know this to be true from personal knowledge. While some years crops are poor, and there are more or less losses from stock dying, which is apt to bring discouragement,

yet if the farmer in such circumstances will look around a little he will find that he is much better off than the other fellow.

Ottawa Co.

JOHN JACKSON.

A SIGNAL SUCCESS WITH ALFALFA SEEDING.

Although the late crusade for promoting the cause of alfalfa in Michigan did not invade our county, yet the spirit of the gospel seemed to permeate the atmosphere, quickening the general interest and inciting to action many already convinced, but halting from fear and doubt.

Alfalfa has not been without its disciples here. Not a few progressive, aggressive farmers have forced their way to success through failures and discouragements. They have demonstrated its value and accorded it due rank in the agricultural scheme. More numerous, perhaps, are the quitters after one or two efforts proved abortive. The germination and early growth is the critical period which gives presumptive evidence of the future crop. If these stages are respectively sparse and sickly, as frequently is the case, the foundation for generous expectations is undermined.

The rank and file of farmers would gladly benefit by the use of this legume, but because they cannot afford to make expensive mistakes, wait for the pioneers to establish permanent methods of culture that are safe to follow.

The two essentials of inoculation and lime have been instilled in the agricultural mind. Soil inoculation from old alfalfa fields is the common practice and those who have made good by this means listen with indifference to claimants of an easier way. However, a neighboring farmer has presented an object lesson in the use of pure cultures which is attracting favorable attention and is bound to win followers. Before launching out as a grower, he made a wide study of the winning methods employed by those deemed experts, he read, interviewed, observed, reasoned. Out of the material gathered he mapped a program for himself to which he quite strictly adhered.

Early in April he plowed under four acres of heavy growth rye and vetch on sandy land. Without applying a fertilizer or renovator to the soil he proceeded to summer fallow with frequent harrowings till the first of August. The moisture from the frequent rains of this period was thus conserved.

Shortly before seeding he procured from the experiment station at Lansing a 25-cent bottle of alfalfa culture, in appearance a small amount of gluey substance. This is warranted effective for only a short time—about three weeks—and should not be sent for far ahead of the time it is needed. The alfalfa seed, 20 pounds to the acre, contained in a sack, was immersed for a little while in water, then spread on a table to dry over night. Early in the morning a mixture of four pounds of sugar and a pint of milk was prepared. The culture, diluted with a spoonful or two of water to help it to pour readily, was turned into the sugar-milk mixture and thoroughly stirred. This mass was then added to the seed, gathered into a tub, which when well incorporated began to puff and bubble like light yeast, showing the activity of the bacteria.

At this stage of the preparation it presented a rather unpleasant prospect to the man who was to do the sowing. He called in the course of the day and roundly denounced the whole process, predicting disaster and failure. It called for the heroism of the operator to withstand this attack and the public merri-ment sure to be aroused by the ludicrous picture this disgusted man's facetious account would paint to the villagers. In his confusion fear seized him lest he had bungled, but there was no alternative but to carry the present plan forward to a finish. Towards evening when the sun had passed the danger point he mixed the adhesive mass of seed dry with soil, thus removing all unpleasantness in handling. As the sowing proceeded, the farmer followed with the drag. It took well into the night to finish covering, but his momentary discomfiture having fled, he was cheered on by a spirit of confidence and a sense of supreme satisfaction. This man says that another time he would not prepare the inoculation till just as he wanted to apply it to the seed. His reason is not plain. Why would not a day spent in the multiplication of bacteria render the mixture all the more powerful? About a quarter of an acre in this field remained unseeded. To fill out

this area more seed was purchased at the same place as the other—the local warehouse—and used immediately without inoculation.

The story of this new experiment soon got abroad, exciting much interest and speculation. During the few days awaiting germination there came some of the soil inoculators as inspiring as Job's comforters, who declared that a stand of alfalfa could not be secured in that way. "Come and see," was the laconic reply. They did come to see—many came to admire, for a cleaner, even, thrifter piece of infant alfalfa seldom if ever was displayed. The seed was free from weeds, and no weeds had been introduced in foreign soil as in the case of soil inoculation. From the start cuttings will be alfalfa and not weeds. A soil inoculated plot near by sown in the spring yielded mostly weeds at the first mowing, the second though better was not free from foul stuff.

The quarter-acre sown with seed not treated with cultures makes a humble showing beside the other.

Oceana Co.

M. A. HOYT.

FARM NOTES.

Alfalfa and Canada Thistles.

We have a 4½ acre lot which was seeded five years ago to red clover; never a better stand in Eaton county. We cut it one year, since which time it has been used for pasture. The middle of November we plowed it. Some parts of the field are quite thick with Canada thistles. We want, as early in the spring as it will do, to sow alfalfa. Will the thistles choke out the little alfalfa? How early had we ought to be able to cut the alfalfa for the first time, the first year? If the thistles will choke out the seeding, what is the best thing to do for the field, to get it in shape for alfalfa as soon as possible? We have not tested it for lime as it is said clover ground will bring alfalfa. How much seed per acre? We could top-dress it if thought best. We have also thought of putting it into oats and making oat hay, plowing after hay is off and then seeding to alfalfa. Then there comes the extreme heat and dry weather for the young seeding. Some advice would be kindly received.

Eaton Co.

S. & L. R.

The results which would be secured from spring seeding of alfalfa on land that is badly infested with Canada thistles would probably depend not a little on the condition of the soil. If well supplied with available plant food and in a good mechanical condition, as would appear from the description given, the alfalfa might survive the encroachment of the thistles and make a good stand. It will not, however, be practical to clip the young alfalfa until the new buds show at the crowns of the plants, as clipping previous to that stage weakens the young plants and would make them more easily crowded out by the thistles. It would, in the writer's opinion, have given the alfalfa a better chance to have plowed the ground just before sowing and then packed the seed bed as well as possible and put in the seed, for the reason that the alfalfa would then have gotten a better start of the thistles than it would on fall plowed land. For this reason the method suggested of sowing oats in the spring and cutting for hay, then plowing and fitting the land for the midsummer sowing of alfalfa, would perhaps be the better plan. Under normal weather conditions it should be possible to sow the alfalfa in July on a well prepared seed bed and get a good stand, and there would be less interference from the thistles than with spring sowing on fall plowed ground. With the alfalfa once well established there need be no fear that the thistles will crowd it out, as the vigorous growth of the alfalfa and the frequent cutting will discourage them effectually.

The amount of seed used per acre will depend upon the method of sowing and the weather conditions, as well as the quality of the seed. We have a very thick stand from a seeding of 10 pounds per acre and have seen excellent stands where the seed was drilled in at the rate of six pounds per acre.

Top-dressing Wheat with Manure.

Can I top-dress wheat with manure spreader without harming it? Would it help to hold the snow and ice and injure it by spreading on snow?

Ionia Co.

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Top-dressing wheat with manure, if put on evenly with a manure spreader, can be safely done at any time when the ground is in condition to draw. It will be spread so evenly and thinly as to have little effect in holding snow or ice, but such effect would be beneficial rather than otherwise as the presence of the manure, if ice forms on the surface, would tend to admit air to the plants and prevent smothering of the wheat.

Our Sugar Beet Industry.

THE season of 1913, from the standpoint of the sugar beet grower, has been quite satisfactory. It is estimated that the Michigan crop reached 1,000,000 tons of beets. A general rule to obtain the sugar produced is to divide by eight. The railroad tonnage of the beet sugar crop also includes the dried beet pulp, which is about one ton of pulp in 20 of raw beets. The dried pulp has an enormous sale to eastern dairies, where silage is not used. The moistened pulp makes a succulent feed that is unequalled in that respect by any other proprietary food. For a time a molasses pulp food was put on the market and was at first a most excellent food, but at times chemical changes occurred so that the character of the molasses pulp food was uncertain. Sugar beet molasses, owing to the excessive amount of earthy salts, mostly potassium, does not enter into stock feeding as largely as does the cane molasses. The sugar beet molasses tastes bitter and is physicking in effect if fed to any considerable extent. This molasses is made into alcohol and the large chemical plant at Bay City makes that revenue collecting district one of the most important in the United States. The different sugar factories dispose of their molasses to the chemical company, shipping in tank cars. The molasses is diluted with water, fermented with yeast and distilled similar to grain whiskey or alcohol.

Absolute alcohol is called cologne spirit and is used for special purposes, such as essences, soda water syrups, etc. A large amount of alcohol is used in the manufacture of smokeless powder and in the arts. The cheaper grades of whiskey are made from alcohol, and are technically known as rectifier's goods, to distinguish them from whiskey direct from the still, which, of course, contains less alcohol than the product, alcohol, itself.

Potash and Sugar Beets.

One of the interesting things in connection with sugar beet growing is the necessity for potash in the soil. Beets grown on muck or peat soils low in potassium are also low in sugar content. The best roots spread out over the ground, apparently searching for potash, just as do swamp growing trees, and the beet growth is meager. At the alcohol plant what remains after distilling is called sludge. The sludge is burned to dispose of the organic matter and there remains the potash, which is in the ash, and this is sold to fertilizer concerns as a source of potash for commercial fertilizer.

Poets, not chemists, have said that sugar being nearly pure carbon was condensed sunlight and took nothing from the soil. We have, in a vague sort of way, an understanding that crops remove nitrogen, phosphorus and potassium from the soil, but are not often given the opportunity to see, as in the case of the manufacture of alcohol from sugar beet molasses. Sugar beets are, however, somewhat thoughtful in regard to putting the potash mainly in the leaves and the crown of the beet, and these are mostly left or fed on the farm. To the sugar manufacturer an excess of top material means a low recovery of granulated sugar, as the earthy salts prevent sugar from crystallizing out of the syrup.

Beet Tops a Valuable Feed.

As the beet pulp and molasses are by-products to the manufacturer of sugar, so the beet tops are to the farmer who grows sugar beets. Their value is variously estimated at from \$10 to \$15 per acre for feed for milch cows. On my own farm beet tops are certainly worth the maximum figure. Potassium again shows in the beet tops, for if fed excessively the milk has an alkaline taste which is quite disagreeable. The correct way of caring for beet tops is to mix with cut corn fodder and put into the silo. The dry corn fodder absorbs the excess moisture of the tops and is softened, sweetened and made palatable. The difficulty in the way of silo filling is that the silage cutters with blowers are not adapted to handling beet tops, which are liable to contain grit and even stones when forked up. The old-fashioned carrier is a long reach of chain for the usual height silo. In foreign countries the beet tops are put into a low silo made of earthen embankments, and form an important addition to the feed supply. The promised land of Biblical times was described as a land flowing with milk and honey, but sugar beets make milk, sugar, dried pulp feed and alcohol.

The state law in regard to testing and taring sugar beets seems to have worked well in actual practice. The weighmasters were sworn to give correct tare and weights. Messrs. Kedzie, Patten and Shannon, respectively of the Agricultural College, Experiment Station and Dairy and Food Commissioner's office, each eminent as chemists, prescribed the methods of testing which were uniform throughout the state, with a certain degree of fineness for the pulp and a fixed length of time for the digestion of the pulp to extract all the sugar. The two inspectors of sugar beet testing saw that correct pipettes and measuring glasses were used, and carried quartz glasses for correcting any displacements of the polariscope used in reading the test. In general the requirements of the law were observed and acquiesced in without friction, and an honest effort was made to deal fairly. The weighmasters and tare men were sworn to deal fairly and impartially in the matter of weights and tare and the printed oath was placarded on the walls of the weigh station so that all might be impressed with the fact that the state was umpiring and the rules of the game must prevail. The state collected one-fourth of a cent a ton, or approximately \$2,500 for inspection fees. The two inspectors received \$150 per month and expenses for services rendered during the campaign.

The Flat Rate.

For the season of 1914 no tests in general will be made as beets will be bought by most of the factories on a flat rate of \$5.00 per ton F. O. B. cars, or \$5.00 delivered at the factory, the difference in price covering freight, unloading from cars and cost of weigh station maintenance. The factories economize in the cost of chemical work in testing and heavy express bills on samples.

One of the striking facts connected with sugar beet testing in the state is the variation in sugar content in different sections. In a general way the more northerly grown beets surpass those grown farther south. Soil conditions, however, seem to be the determining factor, and would afford an inviting field for experimental work. All the logic of beet improvement by culture and selection is thrown to the winds when the beets are bought at a flat rate, and might be called an experiment in socialism.

Economic Phases of the Crop.

The economic effects of sugar beet growing have been far reaching. In the matter of foreign help the agricultural laborer was a distinct gain, for with all the objections the Slav laborer is the most desirable of now possible immigration. The Bohemians and Slav workmen are industrious, generally honest and teachable, and primarily adapted to farm work. Where intemperance in the matter of drink does not prevail, the Slav saves his money and buys a piece of land. It's the exception and not the rule where one fails to make payments. The Bohemian has many good traits, one of which is helpfulness toward his fellow countrymen in assisting them to get a start. In various portions of the beet growing districts the Bohemian has been a necessary cog in the wheel that has raised farm prices. The growing of sugar beets has taken an important place in Michigan agriculture and economic surroundings which, if abandoned, will be seriously felt in so many different places and different ways as to be a serious interruption of business as now operated. Shiawassee Co. JAS. N. McBRIDE.

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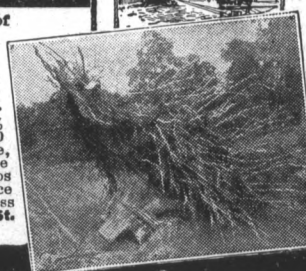


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Send today for Free Circular of this marvelous Grinder and other Goods.

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When Writing to Advertisers please mention the Michigan Farmer.

Dairy.

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RATION FOR FRESH COWS.

I would like to have Mr. Lillie give me the best ration out of the following feeds for fresh cows: Cornstalks, mixed hay, (clover and timothy,) oat straw, corn and rye. Can buy bran and cottonseed meal. Please state amount of grain per animal.

Clinton Co.

L. C. B.

My opinion would be that it would be better to feed once a day, all the hay the cows will consume without unnecessary waste. Then feed cornstalks once a day, and on the next day feed straw, and keep alternating the cornstalks and straw, while the hay is being fed every day. For a grain ration I would suggest the mixture of corn, rye, and bran in equal parts, and feed this in connection with cottonseed meal or oil meal. If the cottonseed meal is used feed about two pounds per day. Or one can mix oil meal and cottonseed meal together. Two concentrated foods can be mixed together, but I don't like to mix cottonseed with wheat bran and corn meal for fear the cottonseed meal will not be evenly distributed and that too much may be fed to some cows and too little to others. But you can mix oil meal and cottonseed meal together and then feed two pounds per day, a pound at night and a pound in the morning, or you could feed the two pounds at one feed and then feed enough of the other grain so that you are feeding a pound of grain to every three or four pounds of milk produced by a cow a day, or three-fourths of a pound of grain a day for every pound of butter-fat that a cow produced in a week.

GRAIN TO FEED WITH SILAGE AND MIXED HAY.

What grain shall I buy for fresh grade Holstein cows? I have good corn silage and mixed hay. Will commercial dairy feed do it?

Kent Co.

SUBSCRIBER.

While mixed hay would not be as rich in protein as clear clover hay or alfalfa hay, yet it is much better than corn stover or straw. Consequently in making a ration we would not need foods quite so rich in protein as we would if it was corn stover instead of mixed hay. I would therefore suggest that you feed two pounds of cottonseed meal per day per cow and then feed corn and oats mixed, or corn meal and bran if you have no oats, using the bran in place of the oats. Mix equal parts by weight, and feed enough of this mixture with the cottonseed meal so that you are feeding 1 lb. of grain to every 3 or 3 1/2 lbs. of milk which your cows give in a day, or 3/4 or 1 lb. of this mixture for every pound of butter-fat which they produce in a week.

BEAN STRAW FOR COWS.

Will you kindly inform me if bean straw is safe to feed cows with calf? I have heard that it will cause abortion. If that is true how long after conception is it safe to feed it?

Allegan Co.

T. F. B.

This is the first time I ever heard bean straw mentioned as a cause for abortion. I do not believe there is anything in it. I never heard of it before and I have fed bean straw and bean pods to cows every winter and I never observed any such effect, so I think the notion is wrong. Probably somebody who had bean pods to feed also had contagious abortion in his herd and the person put the two together and said that abortion was caused by feeding the bean straw, when it really had nothing to do with it. Such things as this often happen. People do not get at the right cause. Many people have abortion in their herd of cows and the cows never saw any bean pods. If one had a herd afflicted with this disease and was feeding alfalfa he might lay it to feeding alfalfa hay, or to the feeding of any particular grain, but such would not be the cause.

Contagious abortion is not due to feeding, but is a germ disease, and no matter what feed a cow gets she may be liable to have contagious abortion.

I would not think of feeding bean pods alone as the entire ration. It is not economical and there is too little variety for the cows to do well. One could afford to buy hay and some grain to mix with the bean pods rather than feed them alone.

In fact, I would feed bean pods only once a day and then feed hay once a day. Or if I didn't have hay I could feed good oat straw and cornstalks, or something to furnish a variety. Of course, besides this the cows ought to have grain of some sort to help balance up the ration. A concentrated grain food of some kind is required to enable the cows to produce anywhere near their capacity.

FROZEN ENSILAGE.

Is there any advantage in having a silo inside of a barn in a real cold climate? Is it unhealthy or injurious to stock to have the odor in the barn? Silo agents have claimed in this locality that feeding the ensilage from the edge of the silo and keeping the middle full, prevents freezing. Several silos have been sold in this locality and the buyers have understood these conditions. But it seems if they keep feeding from the edge in cold weather they will be feeding a continuous rotation of chopped ice. Is frozen ensilage healthy or injurious? Is ensilage as valuable as a feed after it has been frozen and thawed out as before freezing? Is there any advantage in having a steam plant in the barn to thaw this frozen ensilage out? Is a cement silo as good as wood as far as the ensilage is concerned?

Otsego Co.

C. F. R.

It's not afford to have a silo inside of the barn. We want the barn room for something else and it is too expensive. We might a great deal better build a double wall for a silo outdoors than to have the silo in the barn. If you build a square barn and have the walls of the barn to be the walls of the silo the pressure from the ensilage will warp your barn all out of shape. I have tried that. If you build a round silo inside of the barn it takes up so much room that you can't afford it. If you build the silo outdoors and then wanted the protection of a double wall you can put up studding around the outside of the silo and board it up. It would be much cheaper than it would be to put the silo in the barn.

But I don't think either one is necessary. If you are bothered very much about freezing in a small silo, put a tight cover over the top of it and then get a little oil stove. A gallon of kerosene oil a day I think will prevent your ensilage from freezing. Of course, a little stove like this won't accomplish very much if there is too much ventilation in the silo, but if you will make the roof tight so the heat can't all get out and keep one of these little stoves burning it will keep the silo from freezing almost entirely.

I don't think that it is good advice to feed from around the edge of the silo first, because as you say you are feeding frozen ensilage all the while. The way to do it in large silos is to take the silage out of the center where it isn't frozen and work it out as near the edge as you can. It will freeze some in a cold snap so that the silage will stick to the side of the silo, and I would leave this until the weather warmed up. Every little while during the winter time the weather warms up so that the silage will loosen up and fall into the center of the silo. Many times it will thaw out entirely. Your stable, of course, should be warm where you keep the cows. If some of the ensilage is frozen you can shovel it out into the stable and leave it there until the ice is thawed. Then it will do no harm to feed it. But I certainly would not want to feed chunks of frozen ensilage to the cows because it will do them no good to eat this frozen ensilage. It might give them a little indigestion and be of considerable damage.

Freezing does not seem to hurt ensilage. For instance, silos that are filled for summer feeding often freeze considerable in the winter time, but it is not damaged, and of course when the weather warms up it thaws out. Now this ensilage is just as good as it was before it was frozen. It doesn't seem to hurt it a particle. And so ensilage that is frozen and fed in the winter time, if thawed out has not been injured by the freezing.

A cement silo is no better than a wooden silo provided the wooden silo is tight so that the air cannot get to the ensilage. That is all there is about a silo—simply keep the silo tight so the air cannot get into the ensilage when it is fermenting. The only reason that a cement silo is better than a wooden silo is simply because it is more durable, it will last longer. The wooden silo will in time decay. The cement silo will not. If the cement on the inside of the cement silo gets corroded and crumbly so that portions of your ensilage spoil right around the outside, then the cement silo can be replastered and it is just as good as new.

SHOULD A HOLE BE LEFT IN CEMENT BOTTOM OF A SILO?

In putting a floor in a silo would it be all right to leave a hole in the center of about one foot in diameter, for the water to run out?

Newaygo Co.

A. K.

It would not be a good plan to leave a hole in the cement bottom of the silo. It is unnecessary. If the ground is clay and naturally wet, leaving a hole at the bottom would allow water to seep in when the pressure from the silage did not keep it out. A hole in a bottom on sandy land, of course, would not work in this way. But here again the juice of the ensilage if it was put in a little bit green, would drain out and be lost. It is better to have this juice absorbed by the corn. You want the silo tight on the bottom and the sides—the tighter you can get it the better. Of course, in some soils it is not necessary to have any cement bottom at all, simply tramp the ground down hard and solid and let the ensilage come right down onto the ground, but if the ground is loose and porous, you had better have a cement bottom or else some of the juice will drain away and be a total loss.

VALUE OF BREWERS' GRAINS AS A DAIRY FEED.

Please let me know what value brewers' grain is for milch cows. Can it be improved by mixing with other grain? For roughage I feed clover, alfalfa and shredded corn fodder.

Saginaw Co.

H. F. W.

Brewers' grains are quite a valuable grain for balancing up the home-grown foods. They are rich in protein, and are classed along with cottonseed meal, gluten feed, oil meal and wheat bran. As your roughage ration consists of clover hay, alfalfa hay, and corn stover, it contains a good per cent. of protein. Therefore you would not need as much protein in the grain as you would if you were feeding corn silage and stover, or straw. I would suggest then, that you mix dried brewers' grains and corn meal equal parts by weight and feed the cows on this ration, giving them a pound of grain for every three or four pounds of milk which they produced in a day, or from three-quarters to a pound of grain for every pound of butter-fat they produced in a week.

WHAT GRAIN TO ADD TO CORN AND OATS TO BALANCE RATION.

Please give me directions for a balanced ration for dairy cows. We have the following roughage and grain on hand: Silage with plenty of corn, clover hay, cornstalks and bean pods. Grain consists of corn and oats. What should be added and please give amounts of each to be fed.

Livingston Co.

H. G. A.

For the most economical production of dairy products the cows should have all the good roughage they will eat up clean. There should be no scrimping in roughage. Of course, one could scrimp in roughage if he is short when by feeding a larger amount of grain he can get through all right, but it would not be as economical. The roughage is the cheapest part of the ration. On the other hand, a cow cannot do her best on roughage alone because it is too bulky—there are not food nutrients enough. The cow cannot consume enough of bulky food to properly nourish her. In this ration of clover, hay, cornstalks and bean pods, we have a good variety, and if these stuffs are of good quality they make a splendid roughage ration.

Feed the cows twice a day of corn silage, night and morning, what they will eat up clean. Feed clover hay all they will eat up clean once a day, and cornstalks once a day. If you have bean pods enough feed them bean pods once a day, providing you feed roughage three times per day. If not, then you could alternate these feeds, depending on the ones that you have in largest supply.

Now the roughage part of this ration is slightly deficient in protein. Corn silage is a splendid succulent ration but it contains too large a proportion of carbohydrates in proportion to protein for best results. Clover hay is practically a balanced ration. It contains the protein and carbohydrates in right proportion to be used economically by the animal economy. Therefore to make a balanced ration we should have a grain ration that is richer in protein than corn silage because we want it to balance up the corn silage; the clover practically balances itself. However, if you feed very many cornstalks the grain ration ought to provide enough protein to balance up the deficiency of protein in the cornstalks as well. Now, corn and oats will not do this. Neither one of these grains is rich enough in protein to balance up the carbohydrates in the corn silage, and there is no question but what it would pay to buy some outside feed rich in protein to mix with the corn and oats. You can buy wheat bran, cottonseed meal, gluten feed, oil meal, brewers' grains, etc. Undoubtedly the cheapest source of digestible protein on the market is cottonseed meal, and I would advise that you buy cottonseed meal and feed each cow two pounds of cottonseed meal a day. Don't mix the cottonseed meal with the other grain because it is very concentrated and hard to mix evenly, and being a very concentrated food you want to know just how much you are giving each cow. Then grind the corn and oats equal parts. Add enough of the corn and oats to make, say three-fourths of a pound of grain for every pound of butter-fat which the cow produces in a week, or a pound of grain for every four pounds of milk which the cow produces in a day. If you have well-bred dairy cows that are properly taken care of they certainly ought to respond to this ration.

DAIRY NOTES.

Water for Cows in the Winter Time.

A good drink of cool fresh water is refreshing to man or beast when they are thirsty. None of us like to drink water of the temperature of our bodies, or about 100 degrees. We want it down to 40 or 50 degrees, or else we want it hot. Tea and coffee at 100 degrees temperature tastes insipid. So I don't believe that it pays to warm the water for cows unduly. The question as to whether cows should be watered in the barn by each one having a drinking fountain by themselves, or whether they should be turned out to water, has been discussed pro and con for these many years. I don't suppose any careful experiments have ever been made which would enable one to make an unqualified statement favorable to either method. It depends on so many different circumstances. If the cows are kept in a stable that is 60 degrees temperature I don't believe it hurts them to go out and drink a good fresh drink of water even if that temperature is down below 40 degrees. We like to drink cool water when we are in just the right condition. It isn't refreshing to go from a room that is just the right temperature to live in, say 60 or 70 degrees, and then drink warm, insipid water. Ice water tastes better. And so it undoubtedly is with the cow. She can't speak for herself definitely about the matter, but we have got to reason from analogous instances of such things and also the way the cow acts. On the other hand, if the cow is kept out of doors where it is cold with the temperature at freezing or below, and then allowed to drink, warmer water would undoubtedly be better for her, and might perhaps taste better, like ordering a cup of hot tea or coffee when we are chilled. It helps to warm us up, it helps to raise the temperature or to keep the temperature where it should be.

If we had uniform temperature out of doors, if it remained frozen all the while from Thanksgiving until Easter, I would not attempt to water my cows in the barn. I would keep them in a barn that didn't get below 40 degrees and then I would turn them out every day and let them drink. But when the temperature outside is 60 degrees one day and 10 degrees the next, it don't work satisfactorily. There is too much change. So the safest way is to have water in the cow stable so that the cows can drink when they choose to.

But this water in the cow stable is of practically the same temperature, or a little below the temperature of the cow stable. If your cow stable is 40 degrees the water won't be much below 40 degrees, and it will taste good. Even if it comes from out of doors where it is much colder by the time it gets into the stable it has absorbed some of the temperature of the stable and become modified so the cows get it every day at about the same temperature. This is one reason why it is advisable to have water in the stable so that each cow can help herself.

JERSEY BREEDERS MEET.

The annual meeting of the Michigan Jersey Cattle Club will be held at the Agricultural College at East Lansing on January 14, 1914. An unusually interesting program will feature the gathering. All persons interested in Jerseys, whether financially or sentimentally, should attend.

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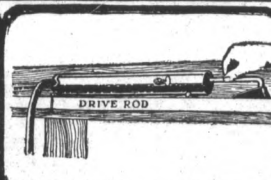
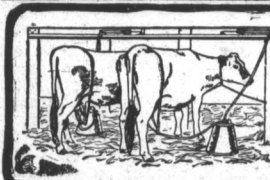
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KALAMAZOO TANK & SILO CO., Kalamazoo, Mich.

Live Stock.

THE LIVE STOCK MEETING.

Every farmer who can possibly arrange to attend should plan on going to the Live Stock Meeting to be held at the Agricultural College, East Lansing, Mich., on January 14-15, 1914. As noted in the program published in the last issue, the first day will be devoted to the meetings of the various state breeders' associations. Every breeder of pure-bred stock in the state should attend the meeting of his association and receive a fresh inspiration, which always results from contact with his brother breeders. Likewise every feeder of live stock will find it greatly to his advantage and profit to attend the general meeting on Wednesday, June 15, where feeding problems will be discussed by some of the best authorities in the country. An affiliation with the Michigan Improved Live Stock Breeders' and Feeders' Association will prove a profitable investment for every breeder and feeder in the state. Attend the meeting on January 14-15 and be convinced of this fact.

FEEDERS' PROBLEMS.

Feeding Value of Pumpkins.

I would like to know the feeding value of the field pumpkin and if they are hard on the land.

Tuscola Co. L. F. L.
Pumpkins have a lower food value than most roots, being more nearly comparable to turnips than other common roots. Their greatest value in the ration lies in the element of succulency which they furnish, but they have a disadvantage in the fact that the seeds, when fed in quantities are considered to have an injurious effect upon some animals. They contain but 9.1 per cent of dry matter and their content of digestible nutrients is as follows: Protein, 1.0 per cent; carbohydrates, 5.8 per cent, and fat, 0.3 per cent. It would not, in the writer's opinion, pay to raise them extensively as a stock food, but a surplus product raised for the market may be profitably disposed of in this way.

Feeding Moldy Fodder.

I was not able to get all my cornstalks in the barn this fall, so put them in large shocks and owing to so much rain with the mild weather, they have molded badly. Would one be liable to lose stock in feeding such fodder, and if not, would it be advisable to feed such feed?

Oakland Co. L. P. M.
Musty and moldy fodder is not a wholesome feed for any kind of live stock, and serious consequences sometimes follow its use, especially for horses. The best way to handle fodder of this kind, in the writer's opinion, would be to feed the live stock plenty of wholesome roughage and then haul this fodder and scatter in the yard during cold weather, allowing the young cattle to pick it over and get the best of it and work the balance into the yard as an absorbent. In this way some benefit will be derived from the damaged fodder, and the risks in utilizing it will be reduced to the minimum.

A Catch Crop for Hog Pasture.

Kindly advise me what to sow next spring on seven acres where I lost a clover seeding this year, which I would like to seed and also use for hog pasture the coming summer. Would rape be all right for part of it? Would it hurt the clover seeding to pasture with hogs? It was with wheat this year. Would you plow ground or disk thoroughly? What does rape cost per acre for seed?

Berrien Co. E. T. P.
Rape makes an excellent hog pasture and is also a good forage crop with which to seed the land to clover. It has the advantage of being a very cheap crop to seed, as the seed costs but six to ten cents per pound and only four or five pounds per acre are required. The rape would make a little better growth of the ground is plowed before seeding, but a fairly firm seed bed should be made for best results with the clover seeding.

NEED OF EXERCISE FOR EWES WITH LAMB.

In the winter management of breeding ewes it should not be forgotten that exercise is fundamentally a vital necessity and upon which the maintenance of health and vigor in the flock largely depends. The practice is prevalent all over the country among flock owners as soon as winter closes in, to confine the flock to very limited quarters, thereby curtailing opportunity for exercise and physical

activity. Sheep naturally are animals endowed with a disposition to ramble and rove around. In the undomesticated life they are seldom found to remain long in one place, but are continuously wandering about in search of forage. The nearer flock owners follow natural tendencies in live stock management the less obstruction and difficulties will be encountered.

There are various reasons why flock owners should direct special attention during the winter months while the flock is confined, to affording ewes with lamb plenty of exercise. First, it is a vital essential for the sustenance of physical health and vigor. Many outbreaks of disease in the flock might have been avoided if its victims had been caused to take plenty of exercise. The building up and tearing down of the physical system is a natural process. If the building up progresses more rapidly than the tearing down process, there is sure to be produced an abnormal condition resulting in a derangement of the entire system. There is a physical equilibrium in all animal life and in order to maintain a high state of health and vitality the laws governing the process must be carefully followed out.

When breeding ewes are confined to limited yardage, as they necessarily have to be during a part of the winter, there is unusual danger of their becoming over-fat on account of inactiveness and strong appetites caused from the call for nourishment of their unborn young. There is additional danger just at this time because every flock owner likes to see his ewes coming along in good condition and very commonly feeds heavily on fattening roughages and grain. Without abundance of exercise the ewes are very likely to take on flesh rapidly and not only injure themselves for the purpose for which they are being maintained, but also impair the development of the lamb crop. There is but one remedy for this evil and that is to cause the ewes to take all the exercise possible, even if climatic conditions are such that they must be confined to limited quarters.

To some flock owners exercise may seem a very little matter, but it may make the difference between success and failure. Every spring we receive reports of poor success with lambs and when the trouble is run down it invariably ends in the lack of plenty of exercise during the winter months. When breeding ewes have been well fed on a highly nutritious and palatable ration during the winter season and the lambs come weak and manifest evidence of low vitality, there is every reason to think that the trouble rests with too close confinement, producing an inactive, sluggish condition that deprived the unborn of proper nourishment. Breeding ewes do not want to be kept in an over-fat condition, but in a thrifty, active state, which results from proper assimilation of food gained from plenty of physical exertion in the open air. There are always a few days during practically every month when the ewes can roam the fields and pasture lots, and this privilege should not be denied them, as it means a great deal toward maintaining health and vigor in the flock.

Shiawassee Co. LEO C. REYNOLDS.

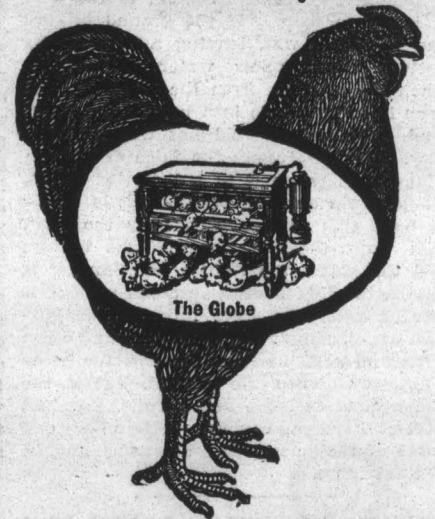
LIVE STOCK NEWS.

Of late the big packers in the Chicago hog market have been keen competitors for stags, cripples, governments and other kinds of throwouts, and now that sellers do not have to depend wholly on speculators and small packers, higher prices prevail. Formerly the ruling prices for cripples was usually \$1.25 under the price of the carload in which they were shipped to market, but recently the discount has been only \$1, and such packers as Armour & Co., and Swift & Co. are free buyers.

S. J. Cox, of Oneida, Ill., one of the prosperous hog raisers of Knox county, showed up in the Chicago market on a recent day with a carload of swine of his own feeding that tipped the scales at 334 lbs. and topped the market at \$7.90 per 100 lbs. He stated that the hogs were only 13 months old, which is an unusually early age for hogs to make such heavy weight. He added that the drove averaged only 200 lbs. the first day of last September and showed a gain of 134 lbs. in less than 100 days. This is a phenomenal gain, especially so when it is known that these hogs made it on running in the stalk fields and this was the only feed they had. It is one of the most profitable hog ventures heard of recently and shows that big money can be made in the hog business.

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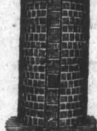


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Poultry and Bees.

BREEDING FOR MORE EGGS.

Egg-laying contests and the experiences of careful breeders go far toward proving that the American hen is not doing her duty. The average hen produces only about 70 eggs per annum, while many flocks fall considerably short of this number. Taking the figures of individual biddies as an indication of what might be, it is not hard to imagine that the average might well be doubled. Of course, we do not expect, at least for many years to come, that large flocks can be made to produce at the rate of 250 or even 200 eggs each, as many individuals are doing at the present time, yet this does not prove that careful selection and breeding will not produce splendid results. The dairyman long ago recognized a difference in his cows, in the quantity of the milk, as well as quality. Why should the poultryman be so much slower to see the difference in the producing capacity of his hens? Only recently it would seem, has it dawned upon the minds of the majority that what is true of the cattle is also true of the hens. Even now the farmer whose poultry is merely a side issue, usually a non-paying one, seems slow to comprehend that there can be any difference in strains so far as egg-production is concerned. He seems ready enough to improve his herds by breeding from the best, but it has not yet come home to him that the practice of the same principle will improve his flocks.

The question of building up a heavy-laying strain is not one of breed, rather it is one of family. We are accustomed to think of the Mediterranean breeds when large production is mentioned, but the records of almost all breeds show some individuals that have 250 or more eggs to their credit for a year's work. This clearly proves that there is a laying type and that certain families possess a greater power of production than certain others.

Almost any hen will lay in the spring. It was in the nature of the wild jungle fowl to reproduce its kind at that season. Man's work in domestication was to breed up to a type that would lay at other seasons. How to select and how to propagate the desirable qualities is the question that concerns us at this time. It is not always true that the best layer in the first year of her life will prove the best breeder. If there be signs of low vitality in the bird she should be discarded. Some things to be taken into account in selecting the breeding pen are age, number of eggs laid in the pullet year, winter laying qualities, fertility of the eggs and general vitality.

Breeding stock should be at least two years old and perhaps not over three. Some skillful fanciers claim the second year is the best. Records should be kept to indicate, at least approximately, how many eggs were laid the first year; it should be noted at what age the pullets began laying. Finally, search for vitality. Males to head the pens should be selected from flocks where the hens have shown the same qualities. To carry out these ideas in detail means a good deal of work, probably more than most farmers and poultrymen have time for. Anyone, however, can by careful observation and study of his flock follow these ideas in a general way. Let the farmer select his best birds for breeders, that is, those with perfect bodies and healthy appearance, the ones that seem always active and happy. Such hens are found in every yard. Adopt some simple method of keeping the hatchings distinct, leg band or otherwise. Note the pullets that are the first to mature and mark the early layers for the breeding pen, providing they later show the other necessary qualifications. One might in this way build up a pen of hens much better than the average of his flock. I would also have each bird as near the standard weight for the breed as possible. Fancy points are desirable but for the laying strain not absolutely necessary. After the females have been selected one could purchase from some reliable breeder the male bird to head the pen. Be sure that he comes from a heavy laying strain. There are many today who are specializing in strains and after you have done your best with what you have on the farm, introduce judiciously the best blood you can purchase and you should soon see a material

increase in egg production and vitality.

Many farm flocks have been allowed to degenerate by nest-stealing and late hatchings, and nine out of ten farmers when "setting a hen" simply select 13 fair-appearing eggs from the general basket. It is no wonder that so many say that "poultry does not pay." I am glad to note, however, that of late there seems to have been something of an awakening on the subject and it is not too much to predict that the American hen may yet be made to do her duty.

New Hampshire. C. H. CHESLEY.

HENS COULD NOT BREATHE GOOD.

I have had to kill several hens and pullets through the summer because they could not breathe good. It is not the roup but acts a little like the gapes, but does not seem to be that. One hen I examined had windpipe hardened and partially closed. Have fed quite a little whole oats. Can you tell me the trouble, also a remedy?

Washtenaw Co.

F. C.

I am not sure that I can tell you anything about what the trouble is. It is a very difficult thing to diagnose a case of this sort by such a meagre description by letter. One thing I am positive of, and that is it was not caused by feeding oats, because whole oats is one of my favorite feeds for hens and we have never had any trouble from feeding them. I should say that this difficulty was probably caused from colds. I should look for cracks in the henhouse where the wind blows on the hens while they are sitting on the roosts at night. That is where serious trouble is liable to develop. Hens rarely catch cold in the day time, they are exercising then and can stand extreme cold weather, but when they go to bed at night they are just like all other animals, they should sleep warm. It is all right to have the front of the henhouse all open, as that gives ventilation and does not produce drafts. On the other hand, if you have a small crack where the winds from the north can blow directly onto the fowl, or under their sleeping perches, they will catch cold and you will have serious trouble.

The trouble might come from a variety of causes. Perhaps the pipe was injured in some way and this caused it to harden. It might be that it came from the fact that the cold had become chronic. Inflammation of the windpipe frequently might produce such a chronic condition as this.

COLON C. LILLIE.

An Experience with a Similar Trouble.

I have had some experience this fall with canker—one of the few evils I failed to encounter in the first period of my eventful career in chickendom. It was not caused by unsanitary conditions, mouldy feed, or any of the common causes. The litter was millet, unthreshed, and unless that would cause it, I cannot figure out how it started. But the control of it may be interesting. I do not claim it as a new method but I know that it has been effective. As soon as I notice a chicken apparently gasping for breath I examine the windpipe for canker. If there is any present, no matter how small, I remove it.

At first I found a few bad cases with the windpipe almost closed and I use a match or a nail to pull the canker out with. As a result I killed a few by pushing the canker down in the windpipe and choking them to death. The instrument was too large. Now I use a toothpick and get inside and pull them out. Then I dose them well with permanganate of potash, holding their neck until they are compelled to drag some in the windpipe on inhaling. Ten cents worth of permanganate diluted in a quart of water is the strength we used it at. Ten cents worth is about an ounce, I judge.

If any more canker forms, repeat the foregoing daily until cured. Generally a few treatments are all that are needed. Canker proved mighty fatal in our case, if let run.

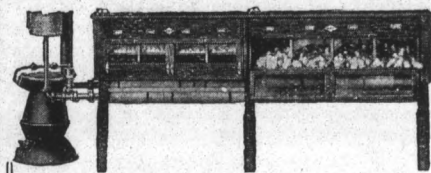
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W. F. GRADY.

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Give the ducklings plenty of air and stuff them with feed. Sprinkle sand over their feed as this will be a sure way of them getting as much as they need.

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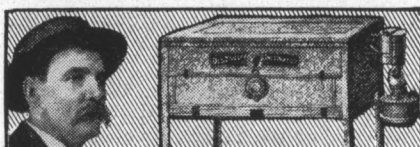
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DETROIT, JAN. 10, 1914.

CURRENT COMMENT.

Supplementary to
The Foreign Potato the comment relat-
Controversy. ing to the recent
hearing in the mat-
ter of the potato quaran-
tine, which was pub-
lished in the last issue, a description
of the more serious of the foreign potato
diseases which necessitated such quaran-
tine is given in this issue. It is a mat-
ter for congratulation that notwithstanding
the fact that influential interests and
people who desired to see the cost of liv-
ing lowered made an effort to have the
potato quarantine lifted, regulations calcu-
lated to give adequate protection to the
potato growers of the United States
against the introduction of these diseases
have been issued by the Secretary of Ag-
riculture.

Briefly stated, these regulations pro-
vide that potatoes to be admitted into
this country must be certified by the gov-
ernment of the country of origin to be
free from dangerous diseases and insect
pests covered by the quarantine, and must
have been grown in a district free from
the wart disease and the powdery scab.
From countries not mentioned in the no-
tice of quarantine, potatoes will be ad-
mitted upon inspection after it has been
determined by recognized experts of the
country concerned that such country is
free from injurious potato diseases and
insect pests, all potatoes offered for ex-
port to be certified under prescribed forms
by the government of the country of
origin.

The regulations also provide that pota-
toes cannot be shipped through infected
countries or districts thereof to this coun-
try. Provision is made for the lifting of
the quarantine against any country in-
cluded in the notice upon the presenta-
tion of satisfactory evidence to the Sec-
retary of Agriculture that such country
or well defined district thereof is free
from injurious potato diseases and insect
pests.

One result of the hearing which should
be a source of satisfaction to potato grow-
ers of this country was the bringing out
of the fact that there is no pressing need
of the importation of foreign potatoes to
supply the demands of the consumers.
The statistician of the Department of
Agriculture estimates that the potato crop
for 1913 aggregated a total of 331,525,000
bushels, which is considerably above the
ten-year average and exceeds the annual
food and seed consumption of potatoes in
the United States. This lack of need of
importation of foreign potatoes to supply
demands for consumption is further illus-
trated by the fact that the present year's
crop is estimated at more than 38,000,000
bushels larger than was the yield for 1911,
in which season the total of importations
aggregated about 13,000,000 bushels. It is
probable that if the quarantine was not
in force a much larger importation would
occur this year, when potatoes are admit-
ted free, than was the case in 1911, when
there was a duty of 25 cents per bushel
on this commodity. Thus growers will
undoubtedly profit to some extent from
the enforced restrictions against importa-
tions due to the quarantine, but consum-

ers should not suffer unduly from this
cause, owing to the fact that the best es-
timates of the crop insure that there will
be plenty of potatoes to satisfy all de-
mands. From present indications, these
will also be available at a reasonable
price, since the present price for the tu-
bers is not above the average price at
the season of the year for the last ten
years. It is quite certain that the farmers
of this country will continue to produce
sufficient potatoes to satisfy the demands
for home consumption and to keep the
price for the tubers as low as they can
be profitably produced under our con-
ditions.

The letting down of the bars for the
introduction of diseased foreign potatoes
might for a time cheapen the price to
consumers and make the business tem-
porarily unprofitable for potato growers,
but in the end this would undoubtedly be
a disadvantage to consumers, as well,
through the introduction of these diseases
which would mean the further curtailment
of home production.

The Michigan tax
The Mortgage Tax rate is high this
Law. year. Naturally this
fact leads to the

asking of pertinent questions by taxpay-
ers as to the cause of the increase. Among
the many reasons which are ad-
vanced for the higher tax rate is the ex-
emption of mortgages from taxation. In
support of this contention one Lenawee
county editorial writer states that the total
of taxes on mortgages paid to the county
treasurer of that county has amounted to
but \$24,000 since the new law went into
effect in August, 1911, half of which went
into the county treasury and half was
paid over to the state. As the amount
of the tax is one-half of one per cent,
the conclusion is reached that there are
mortgages in force in that county ag-
gregating \$4,800,000, which would be cor-
rect if it is permissible to assume that
none of the mortgages on which the flat
rate tax has been paid have been dis-
charged in the interval of time since the
law has been in force. The same writer
asserts that the tax rate in Lenawee
county this year is nearly three per cent
on the assessed valuation, and under the
old law some \$144,000 would have been
collected from this source annually, in-
stead of \$24,000 in over two years. This
conclusion is not quite so clear, since it
is difficult to believe that the average tax
rate on such mortgages as would have
been assessed under the old law would
be anything like three per cent, as the
larger proportion of them which were
found on the tax roll under the old law
were undoubtedly owned by country peo-
ple, whose average tax rate is undoubt-
edly much below three per cent. Expe-
rience seemed to show pretty conclusively
that most of the others, or about half of
the whole number, escaped taxation en-
tirely under the old law.

Undoubtedly, however, the revenue
would be greater under ad valorem taxa-
tion than under the flat rate at present
in force. Those who favor the exemption
of mortgages from taxation take the
stand that such taxation is in effect dou-
ble taxation, and that mortgagors as a
class are obliged to carry the additional
burden in the form of a higher interest
rate. The present flat rate law is a com-
promise between the two plans which
some enthusiasts contended would make
all owners of mortgages pay alike with-
out reducing the revenue from this
source. While the former object has been
attained, few thinking persons expected
the latter result. Many, however, ex-
pected a gradual lowering of interest
rates on mortgage loans as a result.
There seemed to be a noticeable trend in
this direction until the development of
the financial stringency which has been
felt in all lines of business during the
last year, and while interest rates are
not now lower than formerly it is entirely
possible that they might have been higher
if the law had not been passed.

With the prospect of the enactment of
enabling laws for the establishment of
better rural credit facilities in the near
future there is hope that borrowers may
be able to get money on farm mortgages
on easier terms in the not distant future.
If so this will aid in the development of
agricultural prosperity far more than
would a small decrease in the tax rate
through the ad valorem taxation of mort-
gages. In any event, now that we have
the law, let us suspend judgment in the
matter until it is demonstrated how it
will eventually work out. The increase
in the state tax rate this year cannot be
wholly due to that law, because the law
was in force last year as well. It is large-
ly due to the parsimony of the last state

administration, and the necessity of mak-
ing up the deficit this year. The reasons
for increase in the rate for county, town
and municipal purposes lie nearer at
home and the individual reader can an-
alyze them for himself.

The question of the profit
The Profit in in farming has provoked
Farming. some interesting discus-
sions in the columns of

The Farmer during recent weeks. In the
first of the series of articles entitled,
"True Stories About Self-made Farmers,"
which appeared in the last issue, it was
shown conclusively that for one ener-
getic young man who is typical of many
of his kind, there has been a substantial
profit in farming during recent years. In
other words, efficiency counts on the
farm as in other lines of business effort,
but from the standpoint of average re-
sults, the story is quite a different one,
and one which would find general appli-
cation in other lines of effort.

In this connection, some statistics re-
cently compiled by the Bureau of Statis-
tics of the United States Department of
Agriculture are of interest. To reach a
solution of this proposition of the profit in
farming, even in an approximate way, it
was necessary to make certain arbitrary
estimates. The total value of all crops
for 1913 is estimated at \$6,100,000,000. It
was roughly estimated that of this total
52 per cent would not be sold, but would
remain on the farms where produced,
leaving 48 per cent of the total product of
farm crops to be sold for cash, making
the estimated cash sales of farm crops
for 1913 \$2,298,000,000. Of the total ani-
mal products, valued at \$3,650,000,000, it
is estimated that 20 per cent would be
consumed on the farm, leaving the sale
value of the 80 per cent sold \$2,919,000,000.
From these estimates, the cash income
of all sales from the farms of the United
States would amount to \$5,847,000,000.
The total number of farms in the coun-
try was shown by the last census to be
6,363,000, an increase of 11 per cent over
1900. Assuming the same rate of in-
crease since 1910, the number of farms
would be approximately 6,600,000, averag-
ing 138.1 acres in total area with an av-
erage of 75.2 acres of improved land. Di-
viding the total crops and animal prod-
ucts sold according to the foregoing es-
timate, evenly among this number of
farms gives an average total gross farm
income of \$980.55. Figuring the total of
expenses including labor, fertilizers, feed,
maintaining of buildings, at five per cent
of value, and of machinery at 20 per cent
of value, and estimating the item of taxes
at 0.6 per cent of value, with an estimate
of miscellaneous expenses at 15 per cent
of the total of other expenses, gives a
total operating cost of \$340.15. This
would leave a net average farm income
of \$640.40. Charging off the interest on
the average investment at five per cent,
or \$322.18, we have left a net labor in-
come for the average farmer of \$318.22
per annum. According to the method of
arriving at these figures, this last men-
tioned sum includes unpaid family labor
and all the farm furnishes toward the
family living except milk and cream.

The lesson to be learned from this com-
pilation of figures—which it must be un-
derstood are merely estimates, the results
being arrived at as nearly as practical
from the analysis of all statistical infor-
mation on the subject—is that while in-
creased efficiency will materially increase
the profits of the individual farm, any
material increase in the average profit of
the farmers of the country must come
from increased efficiency in lowering the
cost of production and distribution rather
than in increasing production. Farmers
have been more prosperous in recent
years than for a decade previous, because
they have received better prices for their
products. The estimated total farm pro-
duction in 1913 is less than that for 1912,
yet the estimated cash returns to farm-
ers are greater in 1913 than they were
for 1912. Their smaller crop is on the
average worth more money, and the sta-
tistician concludes that "had the total
production in 1913 equaled or exceeded
the 1912 production, it seems probable
that the cash income per farm would not
have been greater and might have been
less than in 1912." The further interest-
ing conclusion is reached that "it is
doubtful whether the cost to the consum-
er would have been less, because retail
prices are promptly raised on a prospect
of under-production, but are very slow to
decline if there is over-production." So
while the individual farmer can materially
increase his profits by increased efficiency
either in increasing production or lower-
ing the cost of production and distribu-
tion, the farmers of the country, consid-

HAPPENINGS OF THE WEEK.

National.

Five persons were killed and several
others injured when a freight train struck
a street car at a grade crossing in Mem-
phis, Tenn., last Sunday night.

Sunday reports by wireless brought in-
formation of a disabled ship lying off the
coast of Virginia which later went to the
bottom with her crew of 24 men.

While saving two of his children from
being burned to death in his residence in
Cheboygan, Mich., Charles Germaine was
overcome by the smoke and heat of the
burning building and succumbed before
he could be rescued.

There seems to be a common opinion
among the officials at Washington that
intervention in Mexican affairs is the log-
ical consequence of the present relations
between the United States and that
country.

John Gordon, a Detroit policeman, was
shot by hold-up men last Saturday morn-
ing, and later died from the result of his
wounds.

It is reported that under the vaccina-
tion system followed by the United States
navy, there were only seven cases of ty-
phoid fever in one year among 80,000
marines. The serum is given under the
direction of public health service in the
United States marine hospitals.

Secretary McAdoo, of the United States
Treasury and Secretary Houston of the
Department of Agriculture, are already
making a field study for the purpose of
locating federal reserve districts and
choosing federal reserve cities preliminary
to launching the nation's new financial
system. The work begins in New York
city.

As a result of a cut in the wages of 400
section hands on the Ann Arbor Railway,
a general meeting of the trackmen's un-
ions is to be held in Durand, at which it
is believed a strike vote will be taken.
The reduction in wages was made on
January 1.

High waves and heavy storms on the
Atlantic have threatened the existence of
Seabright, N. J. Many of the houses
have already tumbled, while others are
threatened. Other towns along the New
Jersey coast are also suffering from the
storm. It is estimated that the loss al-
ready amounts to \$2,000,000.

The Department of Agriculture has an-
nounced that after July 1 definite stan-
dards for the grading of corn and the
uniform application of such standards at
all markets under government supervision
will displace the present method of grad-
ing this grain.

The New York Automobile Show open-
ed last Saturday, with 492 cars on ex-
hibition. Judging from the aggregate
business done on the first day of the
show, there is considerable optimism as
to the coming year's business in automo-
bile circles.

Dr. Weir Mitchell, author of a number
of popular novels, and also a scientist
honored by many foreign societies, died
in Philadelphia, Sunday morning, in his
85th year.

Conditions in the copper country of up-
per Michigan have reached such a state
that Governor Ferris left Monday of this
week to visit the seat of the trouble for
the purpose of gathering facts preliminary
to the making of a public statement.
The failure of the solicitor of the federal
department of labor to bring about a set-
tlement of differences between the min-
ers and operators, has apparently afforded
an opportune time for the state executive
to take a personal part in the matter. It
is expected that his statement will con-
tain a comprehensive plan for settlement.
The governor, according to press reports,
is of the opinion that federal legislation
is necessary, not only to meet the needs
of this state but also of others where
similar conditions prevail. It is under-
stood that the department of justice at
Washington has secret service men in the
field investigating the strike situation.

A conference of the officials of the
American Federation of Labor will be
held in Washington this week to consider
the advisability of calling a nation-wide
strike of labor organizations in sympathy
with the Michigan copper miners.

Henry Ford, the successful automobile
manufacturer, has been influential in in-
ducing his company to institute a profit-
sharing scheme with the employees of the
concern. The plan provides for the dis-
tribution of \$10,000,000 among 26,500 men.
This will a little more than double the
pay they are now receiving.

The corner stone of the new \$80,000
post office at Petoskey, Mich., was dedi-
cated Monday under the auspices of the
grand lodge of Michigan and local Mason-
ic bodies.

Foreign.

Sir James Whitney, premier of Ontario,
lies in a precarious condition in a New
York hotel. Because of the premier's
illness, a government conference of the
members of the Ontario government at
Toronto has been called, when an official
statement will be issued by the Attorney
General.

Until early this week, the Mexican reb-
els had failed to capture Ojinaga, a posi-
tion occupied by the federals opposite
Presidio, Texas. For nearly a week 6,000
rebels have been storming the fort from
different positions. There are 4,000 fed-
eral troops behind the breastworks. In
the unsuccessful attacks made thus far
it is generally believed that the rebel
losses have been heavy, the casualties
being estimated at 500.

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

MICHIGAN FARMER
AND **LIVE STOCK**
PUBLISHED WEEKLY.
JOURNAL
ESTABLISHED 1843.

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

This Magazine Section forms a part of our paper every week. Every article is written especially for it, and does not appear elsewhere

Japanese Farmers of the Far West.

By FELIX J. KOCH.

POETS and bards of all ages have sung of the peaceful pursuits of the farmer, and nowhere are farms more lovely and peaceful than in the San Jose valley, or in the San Joaquin valley of California. But it is just these farmers—beg pardon, ranchers (everything is a ranch west of the Pecos, you know) who are apt to stir Uncle Sam up to a war with Japan, and all because of the fact that the Japanese are coming over and taking land side by side with them. Perhaps even that wouldn't be so bad if it weren't that those Japanese have their homes on those farms, and the modus operandi of the Japanese differs so sadly in its ethics from that of the American west, that the two races cannot exist side by side.

At the same time, those California ranchers owe much, indeed, to the Jap. farmers. John Chinaman does very well to till, and hoe, and sow, and reap, but over John you need a superintendent, a man who is able to say more than just "I dunno," when he knows and is too indolent to explain, and a man with some "get" to him. And that is where you find the Jap, coming in. He's the section boss, the overseer, over these other celestials, and he can make them do what the white master never can.

Just for example, out in California the great seed and vegetable farms are organized largely under the system of Japanese overseers to bands of Chinamen. To what extent this system has gone may be indicated by showing that in the farming country of mid-California there are companies of Japanese who make a comfortable living just in killing gophers for the ranchers and, in addition to receiving pay from these, netting a neat bounty from the state for killing the pests. Aside from that, any number of Japanese are living off the seed farms, and the beauty, the system, the order manifest on these is due very largely to them.

In the spring a San Jose seed farm is one of the prettiest sights in the world. Even the plebeian onion, when in blossom, is beautiful when it is present in countless millions and arrayed, as the Japanese will have the Chinamen put it, in severe rows. So, too, ten acres of peas, or a hundred of mustard, are likewise things of beauty when every weed marring their evenness is gone. In fact the great cause of wonderment to the visitor to the seed farm lies in its size and its infinite order.

One rancher, for example, devotes two hundred acres solely to lettuce. It takes a force of men, under the Japanese, two months and a half to sow just the seed. Usually six men, with a horse, are detailed to this task, the horse drawing a mammoth seeder, upon which the Jap. has his place, and the men following behind to direct the great implement and see to it that the seeds fall where they should. Three pounds of seed to the acre is the usual allotment made, and from these three pounds all the way from three hundred to six or even eight hundred pounds of lettuce seed will be realized, according to the nature of the soil in which sown.

The lettuce plants begin to blossom early in July and the seeds ripen in September. The plants are then cut down with the sickle and sacked to keep the seeds from the great flocks of birds infesting the valley. When brought together the plants are flailed, being beaten upon sheets 40 feet square stretched out in the fields. Then the seed is screened and sacked. Separate warehouses await this lettuce seed, and there will be, on an average, a hundred pounds to each sack of the many stored there.

As suggested, led by the Jap. overseer to the hillock overlooking the same, one

of the prettiest pictures in all the west is presented when the onions bloom on the farms. After the lettuce seed is down the coolies plant the onions, some time in November. The overseers have the system all mapped out, and the little plants will be up by January and in full blossom in April, or even March. In August, then, the seed is ready to gather, the

plants resembling onions when en masse; but, while the onions are planted as thick as grass, the oyster plant is set out in rows two feet apart in one direction and three in the other.

Nor is planting in the valley as easy a life as it seems, once the seeds are in. The Japanese have their hands full keeping John Chinaman at it and at the same



In Busy Times Japanese and Chinese Labor Side by Side.

seed-balls being cut by hand and put into large seed baskets, each man filling one basket every thirty minutes or the Jap. foreman knows why. Every four baskets are then turned into a sack, and wagons bear this off to the drying ground. There the onion seed is dried on great sail-cloth sheets, in the sun, for perhaps three weeks, the seeds being stacked to the depth of a foot and requiring to be turned over daily with wooden forks, or else by the nimble feet of the Chinamen, much as wine is pressed by peasant feet in France.

Thoroughly dried, this seed is gathered into sacks, threshed and sacked, and then cleaned over a fan-machine and prepared for the bath. The object of bathing or washing the seeds is not so much to insure cleanliness as to enable the bad seeds to float to the surface, whence they are skimmed off and destroyed.

Blossom time on a seed farm is prodigal in its variety. There are salsify, leek, parsley and radish, lettuce and carrots, parsnip, kale and cabbage, each with its different bloom. Three acres of salsify make a picture in themselves, the

time not losing their own official heads for negligence. Seed sown in June for salsify, for example, must be replanted in December, and when it is remembered that plants yielding from 600 to 1,000 pounds of seed to the acre will be under cultivation, the enormity of the task may be realized.

Seeds are not planted early in this valley, owing to December and January frosts. The amount of the yield is carefully estimated before-hand. Five hundred pounds of onion seed to the acre, seven hundred to eight hundred of leeks, six hundred of parsley, four to five hun-

dred of kale, is the way the seed rancher will foot up the estate. Then, when the salsify and the onions are 'way up over the ground, and the green lettuce leaves are just peeping out, he will make his allowances for the season.

But, more than all, in running these, the largest seed farms in the world, there is presented the interesting problem of organization. Over each farm the proprietor places his foreman, who will work along as do any of the laborers. Under him the corps is divided, the labor being Chinese and Japanese, each race full of hatred and animosity for the other.

Out on these seed farms the men work from six in the morning until six at night. Each coolie plants two of the long rows a day, and such is their length that dusk often sees these far from completed. All planting, except the lettuce, is performed by hand. For cutting and reaping there are implements innumerable—radish-seed reapers, mowing machines, sickles and other devices—but many of the seeds are cut by hand, being thrown into sacks worn at the gatherer's side.

All of which, of course, means work and lots of it, and so, in season, there will be as many as two hundred persons employed on a single seed farm. Then one finds class distinction at its best. No Japanese, at such time, would condescend to mingle with the Chinese, nor would the latter presume to inflict himself on the Mongols. In among them all the manager goes, in broad gray hat and white duck suit, resembling nothing so much as some planter of the South before the war.

It's interesting to watch them, two Oriental races side by side, hating one another, but hating the whites even more, and being despised by the white man in his turn, withal that he knows he cannot do without them. What will come out of it, who can prophesy? It's indeed an interesting commentary on farm life in the West with its vexed and puzzling labor problem.

The Day of Reckoning

By LUCILE A. HOWELL.

IT had been hot and sultry all day. The blades of the corn curled and drooped in the scorching heat, and the little patch of grass at Nancy Riggs' back porch was parched and crisp. Late

in the afternoon a breeze sprang up from the west, rustling the thirsty leaves of the maples and making rippling billows over the wheat.

Mrs. Riggs threw back the screen door and propped it open with a chair.

"A body's jes' got to have a breath," she complained, as she fanned herself vigorously with her sunbonnet; "after breathin' strained air all day through these things they hain't much left o' me by night."

She stepped out on the back porch and, shading her eyes with her withered hand, stood peering down the path that led past the granary to the garden. A stray wisp of grew hair waved back and forth in the breeze and she mechanically wound it around the tight little twist in the back of her neck.

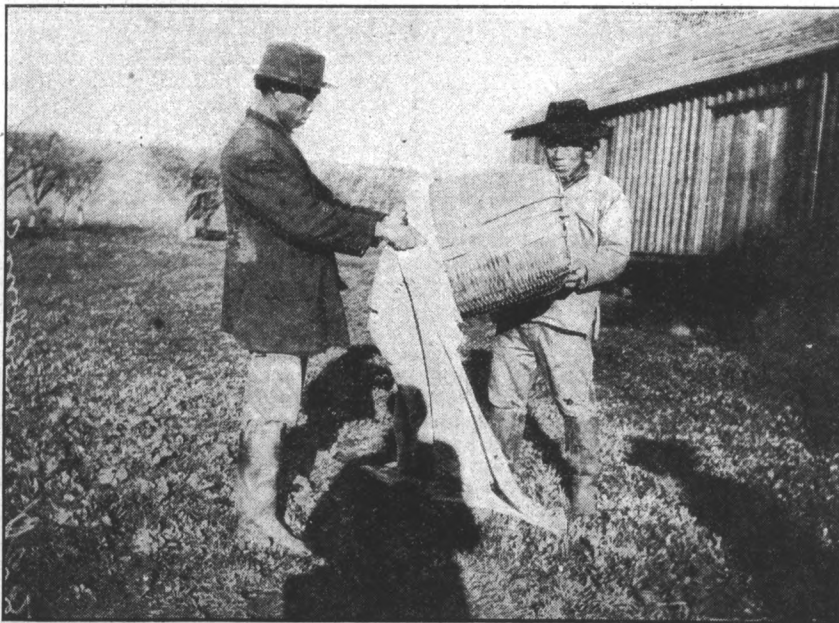
"I do believe that 'Cindy's got a mess o' beans at last," she sighed, as a young woman enveloped in a large kitchen apron, her brown hair clinging to her face in moist little curls, came quickly up the path. "If I'd a ben able to 'tend the garden they'd a ben somethin' in it."

Lucinda came up the steps and dropped her basket on the porch.

"Why, mother," she exclaimed, "what made you open the screen? The house will be full of flies."

The old woman smiled sarcastically at her daughter.

"Don't fergit your early raisin'," she



Types of Celestials Employed on the Great Seed Farms of the West.

reminded her. "Flies never killed nary a body as I ever heerd tell of, an' lots of folks has died of suffocation. Did you finally git some beans?"

"Yes, a nice lot, and aren't they fine for this early?"

"Early!" the old woman sneered, "If I could a 'tended the garden we'd a had more beans than we could a picked nigh onto a month ago."

"I'd hate to kill myself raising more beans than I could pick," Lucinda retorted, as she shut the screen and went into the kitchen.

"I hain't never killt myself yit!" and the way the old woman slammed the screen door open and set her chair against it would have removed any doubts one might entertain as to her present state.

"That's the way, though, with this generation. One good day's work an' you're ready fer your box. You always was triffin', but since you married an' had John Barnett to wait on you, you ain't worth killin'. He's eternally figurin' out somethin' to keep you from workin'. Now there was that washin' machine that he went an' give seventeen dollars an' forty-nine cents fer. That was as big a piece o' foolishness as I ever see. An' here las' night he come from town a waggin' home a carpet sweeper; two dollars an' a quarter more throwed away that you had better ben a layin' up fer your old days. If your Paw an' me had a ben took in by every agent that was a passin', I'd be in the pore-house now. An' that hain't sayin' nothin' about that patent coffee pot that I wouldn't give house room if I had my say. Some jew peddler fooled him out of a dollar an' ninety-eight cents fer that triffin' thing. A willful waste makes a woeful want. I've always tried to learn you."

Lucinda Barrett gathered up her pans of chicken feed and started for the barn, wholly unmindful of her mother's tirade. The most interesting tale loses its novelty with constant repetition. A flock of hungry flocks met her at the gate.

"Mother," she called to the bent old figure still panting for breath in the open door, "who turned out all my chickens? I just got them shut up."

"I did," the old lady boasted. "They wanted a little air themselves. A hundred or more of 'em shet up in that wire pen is enough to smother 'em all."

"But, mother," Lucinda tried to explain, "they've been out all day, and John just helped me to drive them up about an hour ago. Bob Morely is coming for them after supper. How in the world can I ever get them up again alone!"

"You're jest a sellin' 'em to git a new parlor carpet. I heerd you a plannin' an' I don't care if you never git 'em back. They would've died fer want of air shet up in that yard. It used to be that I knew somethin'," she grumbled, "but now the sooner I'm gone an' out o' your way the better it'll be. Then you kin buy every new-fangled thing that comes along an' never hear a word about it."

A man came up over the hill at the back of the farm and, stopping in the lane, laid down some lumber that he was carrying on his shoulder. Nancy watched him attentively for a few minutes as he moved slowly back and forth along the lane fence.

"Cindy!" she called at the top of her voice, "Cindy!"

Lucinda came around the barn.

"Is that John down there in the lane?"

Lucinda nodded. "I forgot to tell you, mother, he's going to put a gate in the fence there so they can get in to haul the wheat without going across the corn."

"Indeed he's not!" Nancy pulled on her bonnet and started down the steps. "They hain't a goin' to be no gap cut in that there fence. Your Paw an' me worked hard to put that fence there, an' there it's goin' to stay. He had no business a puttin' corn in the medder. It's ben a pasture lot ever sense we come here, an' now let him git his wheat out the best way he kin."

"Wait, mother, I'll go and tell him." Lucinda ran across the yard and down the path to overtake her mother. "He wasn't going to cut the fence without asking you. He's only measuring it."

Nancy stood in the shade of the apple tree and watched Lucinda as she hurried down the lane.

"I don't know but what 'twould be better to have a gate there," she admitted, "but let him come an ask me first. I seen a feller along here not long ago sellin' a patent gate that you could open without gittin' out o' the wagon. I wouldn't be a bit surprised if he didn't

fool them young idiots into buyin' one."

She was comfortably settled in her rocker when Lucinda came back and sat down on the steps.

"Mother, the Methodist Sunday School is going to have a basket picnic tomorrow at Cedar Springs, and John says we'll all go if you want to."

The old woman stopped rocking and stared at her.

"An' did you think I would go?" she asked. "No, indeed, I'll not go to no picnic with them Methodists. Didn't your Paw an' me go to one o' them picnics onct an' I took as fine a pound cake as you ever laid your two eyes on, an' if it was ever passed at dinner they passed a thousand. No, ma'am, not one crumb of it did I see, an' when we got ready to start home there was ol' Miss Susan Perkins a packin' my cake in her basket. Says I to your Paw, says I, 'This is my last Sunday School picnic. I'll never fix fer another'n.' Prayin' an' preachin' to the pore little younguns on Sunday and then thievin' on Monday," says I. 'That's all I want to know about 'em,' says I."

"Well, John wants to go, and I'm going with him," Lucinda averred. "That was about fifteen years ago that you lost your cake and Miss Susan's dead and buried. Seems as if you might go with us tomorrow."

"No, I'll not go," the old lady insisted. "You an' John be your own boss but it seems to me that there's work enough here to keep you both busy without givin' in around the country."

Next morning bright and early the Barretts started for the picnic ground. Old Mrs. Riggs stood at the front gate and watched them drive off.

"The biggest pair of idiots in the state," she declared as she went back to the house. "They've got no more idea of the value of time an' money than a two-year-old. Anybody with a slick enough tongue kin fool 'em out of all they've got."

After dinner she had settled herself on the back porch for her usual nap when she was disturbed by the sound of wheels at the gate. Quick steps came up the walk and a rap sounded at the front door.

Peering through the curtains, she discovered the intruder to be a young man, nicely dressed and smoking a cigar.

"It's another one of them agents," she whispered to herself. "They've got this house spotted."

He knocked again. "I'll jest settle him right now," and she threw the door open so suddenly the young man jumped back in surprise.

"John Barrett nor his wife hain't neither one of 'em at home," she informed him before he could get his breath. "so, if you've got somethin' to sell, you might as well travel on an' be quick about it, too."

The young man took off his stiff straw hat and bowed in a most polite manner.

"I beg your pardon," he apologized in a most persuasive tone, "but have I the honor of addressing Mrs. Nancy Riggs, wife of the late Peter Riggs?"

"That's my name," Nancy snapped.

"Mrs. Riggs, I'm delighted to know you," and he bowed again. "Appleton is my name and I came here today to see you by yourself, knowing that your son and daughter were away. I have business of a very private nature to transact with you, and, if you can give me a few minutes of your time, I will not detain you long." He smiled in a most winning way and took hold of the knob of the screen.

Nancy still eyed him suspiciously and hesitated, her hand on the hook of the door inside.

"Kin you give me some idee of what this important business is? An' if I'm interested, I might talk to you," her curiosity overcoming her antipathy toward any sort of an agent.

"Madam, I can explain it to you very easily," he assured her, "and, as to your being interested, there is no doubt about that. A woman of your intelligence would scarcely fail to take advantage of the proposition that I bring to you. It concerns an investment which, in a few months, will double the small sum that you will be required to advance. We are making this offer to a few selected persons, the representative citizens in every community, and from all the others in this neighborhood we have chosen you, as we were assured that a woman of your business ability would be able to grasp the tremendous advantages of the proposition that I am bringing to you today."

Nancy slowly unhooked the screen and

There Is No Time Like the Present.

By CHARLES H. MEIERS.

We oftentimes sit and dream about the days that have gone by
And wish that we might journey back again to scenes of old;
We think of friends we used to know and wonder, with a sigh,
If they still think of us, of if their love is weak and cold;
We overlook the beauties that surround us, and we do
Not realize our blessings as in fancy we recall
The past with all its pleasures; still we know that it is true—
There is no time like the present, after all.

We dream of days that are to come, and joy that is to be,
And long for many, many things that are not ours today;
We wish that we might dwell in some fine palace that we see.
Forgetting that the finest mansion in the city may
Not shield one heart from sorrow nor retain its happiness.
The great things we intend to do when finished all seem small.
Today has brought at least some joy; tomorrow may bring less.—
There is no time like the present, after all.

There is no time like the present as adown life's path we go.
Days gone by are only memories, tomorrow may bring pain;
The friends we have today may be the best we'll ever know;
The chance to speak kind words to them may never come again.
The past with all its joy was fair; the future may be bright,
But we have no way of learning what to our lot may fall;
The world is full of joy today for those who live aright.—
There is no time like the present, after all.

opened it back. His reference to her great business ability had flattered her, but she was naturally suspicious on general principles of anybody who had anything to sell. Still, somehow, this young man seemed so different from the usual agent with his sample case and ever-ready order blank, so she led the way into the parlor and threw up the shades.

"First, I want to explain to you why I came today," this oily-tongued person began. "You are undoubtedly aware of the fact, Mrs. Riggs, that in this day and time the younger generation do not give their elders credit for very much—er—a—sense, if I may say so," and he paused very impressively to note the effect of his beginning.

"That's the truth," Nancy agreed with him. "That's the truth, if you ever told it."

"I thought you would say so, and, for that reason I have taken the liberty to call on you in the absence of the rest of your family, that you might give me your unbiased opinion of the proposition I am about to explain to you. Your daughter, like every other daughter, does not appreciate the ability which you possess to recognize a good thing when you see it," he flattered her, "and, therefore, I wished to have a confidential talk with you, that you may not be influenced against me by persons having a pecuniary interest in your affairs. Children are apt to encourage their parents to hoard up their money, you know," he insinuated, "and, for that reason, are very often unable to see the advantages of such an offer as I bring to you."

"I most generally do as I please," the old lady interrupted him, "but of course, as you say, the risin' generation don't take much stock in our advice. Now, what is this proposition you are a talkin' about?"

"Well, Mrs. Riggs, it is this. The company which I represent, The Consolidated Homeseekers' Realty Company, have become the owners, after years of unsuccessful endeavor, of a tract of land in western Montana. They have platted this into the town of Hyghland. We have divided this town into twenty different sections and in each one of these sections we have set apart one lot which is to be used for advertising purposes alone. Our plan is this: We select the most conservative, reliable and influential person in a community from which we hope to secure prospective buyers. We build an up-to-date cottage on this lot and sell it to you for the trifling sum of one hundred dollars. You keep this for six weeks, during which time we keep you informed from day to day of the improvements which are being made around your individual property and the town in general. If, at the end of the six weeks, you wish to keep the property, you pay us the small sum of five hundred dollars, making the purchase price six hundred, and the house is yours. If, however, you may not desire to buy the property, we return your one hundred dollars, together with an additional five, and release you from all further obligations. This is merely that we may have the influence of your name in securing a party of emigrants from this vicinity."

He paused in his eloquent oration and wiped his face.

"You're wastin' your breath an' your time," Nancy hastened to inform him, when she had recovered from his ef-

fusive declaration. "I, nor none o' mine as I knows of, has any idee of goin' to Montana, an' so I fail to see why I should buy your house."

"Think what a good investment if you should decide to keep it. In a few years you can double and perhaps triple your money without any effort whatever on your part. If, however, you decide that you do not wish to keep the property, as I have already explained to you, your money will be returned without a word. All that is necessary for you to do today is to advance me the one hundred dollars and sign this contract, which is already signed by the president of our company. It reads thus: 'He took a printed contract from his pocket and proceeded to read it aloud to Mrs. Riggs, but the 'parties of the first part,' and the 'party of the second part,' and the 'aforesaid' were all so confusing to her that, by the time he had finished, her head was a complete jumble of legal terms."

She walked to the window and strained her eyes to see down the road. No buggy was in sight yet. A hundred dollars was a good deal of money, but what a fine chance to get ahead of John and Cindy for once. They didn't believe that she knew anything, as this young man had said, and how astonished they would be when they heard that she had been the lucky one to get this fine property for six hundred dollars; and, if she didn't want it, it would be very simple to get the hundred back. The young man had said so.

"This is a photograph of the house which has been built on this lot," he interrupted her meditation, handing her a picture of a neat little cottage surrounded by a beautiful lawn.

Nancy hesitated no longer. Nothing risked, nothing gained, she thought.

"You say that there paper is already signed?" she inquired, as she scanned the formidable looking contract over the rim of her spectacles.

"It is signed by the company. You put your name right here," handing her his pen, "and I'll witness it."

"Now, you sign your paper," she said, after she had laboriously written her name beneath the flourishing signature of the president of the company.

Stepping quickly to her room, she unlocked the little tin trunk that stood in the corner and took out what proved to be an old stocking, wound round and round with yards of cord. Carefully unwrapping it, she drew out a roll of money and counted off ten worn, faded ten-dollar bills.

"I wish to compliment you on your keen insight to a business transaction," he congratulated her as he pocketed the money. "I hope you will be so well impressed by the reports that you receive of the improvements which are made in the vicinity of your house that you will see your way to purchase it. I feel sure that you will be more than satisfied."

"I don't know," Nancy debated, as she opened the door for him. "It's kind o' like buyin' a pig in a sack. I never did anything like this before but onct. I bought one ticket in a Louisiana lottery, an' drew a safety razor, but you're sure I kin git my money back, are you?" she asked, anxiously.

"You have the company's contract," he evaded the question as he jumped into his buggy. "You'll not want it back."
(Continued on page 36).



Jack Applies History to Every-day Life.

By ALTA LAWSON LITTELL.

WHERE'S Bill?" demanded Jack Ryan, as he dashed onto the playground one frosty morning. "Things never move off right till he gets here," he complained.

"What do you see about that pauper to be so crazy about," sneered Harold Wilson. "I guess maybe some of the rest of us could run a football game as well as that beggar from the home of the friendless."

"Maybe you could, and maybe you could cheat in your arithmetic exams, too," said Jack, with the brutal candor of 14-year-old boys. "Bill doesn't borrow somebody else's brains, and that's why I'm crazy about him, if you want to know."

"If you mean me," began Harold, but Jack's sister Peggy ran up just then, crying eagerly, "Oh, what do you think! Father has promised Jack and me each five dollars if we have perfect marks in deportment all winter. Here's where I leave my apples in my dinner pail after this, and don't you dare to look at me and make me laugh, Milly Burke. Jack is sure to get his five, for he is perfect anyway. But somehow I just have to giggle or burst," she ended with a pathetic groan.

"Aw, don't be silly, Peg," growled Jack, as the boys began to shout, "Perfect boy, teacher's pet."

"Don't be too sure he'll get his five dollars, Miss Peggy," said Harold, vindictively. "Jack isn't so awful good he couldn't do anything wrong, you know."

The ringing of the bell averted war between Peggy and Harold. For if Peggy did take Jack to task herself sometimes, she allowed no one else the same liberties.

Two orderly lines were formed outside the door in a twinkling. Miss Goodrich had early in the term taught the children that they must not confuse liberty with license, and allowed no pell-mell rushing into the schoolhouse and disorderly scrambling for seats. Harold marched directly behind Jack. Just as the two entered the door their feet somehow became entwined and Jack sprawled headlong before Miss Goodrich. There was a momentary titter, then absolute silence as Jack, white with rage, scrambled to his feet and wheeled on Harold. Then at a quick little gasp from Peggy he turned about, mumbled an apology to Miss Goodrich and passed on to his seat.

"How did it happen, Harold?" said the teacher, drawing him out of the line as the rest filed in.

"I'm sure I don't know," he answered glibly. "He must have slowed up as we came in the door."

"I'm sure it was an accident," said Miss Goodrich. "Let us see it doesn't happen again." And in another moment the children were heartily singing, "Oh, dear, What can the matter be, parents don't visit the school."

The busy hum of an orderly school soon settled down over the room. Jack, still pale and sullen looking, scowled over cube root, and Harold, with an air of perfect innocence and good-will, looked at his books. But, though everything was apparently quiet on the surface, there was an electric current in the atmosphere which spoke not of perfect deportment for every pupil in the Eaton school. It became more apparent as the recess hour drew near and a solitary "spit-ball" whizzed through the air and provoked a subdued titter, which quickly subsided as Miss Goodrich looked up.

Jack's hand was up and he was smiling broadly.

An excited chattering broke out when the children assembled in the yard for recess.

"Did you see it? Who did it?" everybody was asking. "No one has dared do such a thing since Miss Goodrich came."

"She thought it was you, Jack," said Bill, "but of course I know it wasn't."

"Oh, no, the perfect boy wouldn't do such a thing," jeered Harold. "He wouldn't get his five dollars if he wasn't a good boy."

Jack and Bill looked at Harold, then at

each other with a sudden understanding.

The solitary spit-ball was the beginning of a train of irritations which threatened to disrupt the usual good order of the Eaton school. Previous to the arrival of Miss Goodrich the children had been lawless because they were half taught and wholly uninterested. The new teacher from the Normal had changed the atmosphere of the school by making the lessons apply to the world the children knew. For the first time the children could "see some sense" in arithmetic, geography and history. Arithmetic helped them to figure up the crop output from their father's farm and what his actual profit at the end of the year would be. Geography had something to do with the farms and mines of the different states, and the towns were not mere specks on the map but markets for the farmers living around them. History concerned men who actually lived in this very country once, and whose square deal made it possible for the children of the Eaton school to have comfortable homes today. An orderly school followed, as a matter of course.

But, as in every school, there were two or three who preferred the old lazy way of doing, and, encouraged by the fact

boy or girl who made a disturbance in the afternoon.

It was a matter of pride to Jack to have nothing but 100 marks in deportment, even if the promise of five dollars had not given an added incentive. During the noon hour he asked permission to change his seat to one in front, and when school was called again he took the new place with the satisfied feeling that he was completely out of the danger zone. Warm and comfortable himself, he read of that winter at Valley Forge, trying hard to put himself in the place of the shivering soldiers, as he knew Peggy was doing, but, like the average healthy normal boy, failing completely. Then, apparently unmoved by the spit-balls which struck his head and neck every few minutes, he drew forth his grammar and was soon writhing and twisting over the subtle difference between the verbs "to lie" and "to lay."

Buried in this weighty abstraction he slumped down over the desk, one hand slipped over the back of the seat in front and the fingers of the other rumpiling his hair. So deep was he in his mad efforts to fasten the exasperating verbs firmly in his mind that he never noticed that Harold had come forward with his class in English and had slipped into the seat directly in front of Jack.

He was made aware of the fact suddenly in a painful manner. Harold leaned back against Jack's hand and began slowly pressing it against the wood. Jack tried to draw it out, but Harold, bracing his feet on the floor, pushed back harder and harder. Tears, both of pain and rage, began to gather in Jack's eyes. He would die before he would be baby enough to appeal to Miss Goodrich.

"Let me go, or I'll punch your head for you," he growled into Harold's ear.

But as that was exactly what Harold wanted, he only pushed the harder. The pain was becoming so great Jack could



"Hurray for Jack Ryan, our future president," laughed Bill.

that the teacher had apparently not noticed the spit-ball, they began to revive their old pet annoyances. Lead pencils dropped to the floor and rolled halfway along the aisle, to be pursued by injured looking owners; ink-well covers banged with sharp clickings; nice, new, long sticks of crayon dropped from fingers to break into bits; feet scuffed; books were rustled noisily; leaves were torn from tablets with unnecessary briskness and the original spit-ball was joined by sundry brothers. To everything Miss Goodrich was deaf for some time, but the disorder grew so marked that she finally announced she would be forced to give a mark of only 50 in deportment to any

no longer bear it. He spied a pin in the lapel of his coat and, quick as a wink, drew it out with his free hand and jabbed it viciously into Harold's back. With a scream Harold sprang out of his seat, rubbing his back and looking back at Jack. Jack, crimson with mortification and anger, stared down at his book.

"I am waiting for you to explain, Harold," said Miss Goodrich quietly.

"Jack ran a pin in my back," replied Harold, virtuously.

"Is there some mistake, Jack?" asked Miss Goodrich.

"No, ma'am, I did it," said Jack desperately.

"Well," suggested Miss Goodrich, "I am

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sure you can explain." Then as Jack continued to stare at his book and did not reply, she added, "What have you to say, Jack?"

"Nothing," mumbled Jack, still looking moodily at the verb "to lie."

"What do you think about it, Harold? Perhaps you can explain," Miss Goodrich turned to the other boy. "It might have been an accident."

"Oh, no, it wasn't any accident," said Harold quickly. "Why, he jabbed it away in," and he began again to rub his back with an expression of pain and injured innocence.

"Then, if there is no satisfactory explanation I must give Jack a mark of 50 in deportment," said Miss Goodrich. "I am sorry." And she turned again to her class. Peggy started from her seat but, at a fierce scowl from Jack, dropped back again and buried her head in her arms.

When school was over Harold broke in to a run as soon as he reached the door. The other boys and girls crowded about Jack. Two or three had seen the whole affair and of course everyone knew what had happened.

"Why didn't you tell Miss Goodrich. Catch me taking a bad mark for that coward. Punch his head for him, Jack. I'll tell her myself," chorused the sympathizers. "She ought to know that booby was to blame. You tell her, Peg."

But Jack refused either to tell or to let any of the others do so.

"I don't have to be a coward just because he is," said Jack, who had unconsciously absorbed something besides cold facts from that memorable winter of '77. "There were a lot of fellows trying to cheat Washington that winter he was freezing to death at Valley Forge, but he just kept right on and didn't notice them, and see where he got to."

"Hurray for Jack Ryan, our future president," laughed Bill. "You're right, Jacky. But I don't think I could do it."

"I'm a nice, little hero," mocked Jack. "Won't someone please put me in a book," and, dumping Bill unceremoniously off the porch into a snowbank, he dashed down the road, the whole school trooping and shouting at his heels.

FEEDING AND TAMING WILD PETS.

BY H. F. GRINSTEAD.

The boy who can successfully tame the young crow, squirrel, 'coon or opossum will always find a market for them at a fair remuneration for the time spent. None but the young and helpless of wild animals and birds can be tamed. One should be careful in handling the young squirrel or 'coon, as they are capable of inflicting severe injuries to the hands. Get the confidence of the young animal by kind treatment, but be firm with your lessons of training. Do not coddle or nurse them, but handle them every day in some way.

Animals that are taken from their mother's breast should have cow's milk, but not without first diluting at least one-third with water. It is often difficult to induce them to take milk, but usually a small nipple can be made by wrapping a small quill with a soft rag and inserting in a bottle. If a small rubber tube can be procured, it will be better, but the common nipple is too large. Have regular feeding times, and never give stale feed or they will not grow to maturity. After a few weeks, or a month or two, give scraps of bread and meat. Give the first feed of the day early in the morning, before sunrise if practicable.

Birds should be fed on worms and grasshoppers when quite small. You will notice the large mouth, almost as large as the head, and it is always open when you come about. This is no reason, however, for feeding all the time, and many birds are killed by overfeeding. Seeds and cracked grain may be fed after the birds are in full feather.

THE DAY OF RECKONING.

(Continued from page 34).

You'll buy the house when you think it over."

Clicking to his horse, he raised his hat, and man and vehicle, with Nancy's money aboard, were soon out of sight, enveloped in a cloud of dust.

Nancy stood on the porch turning the contract over and over in her hand.

"It's like a furrin language to me," she confessed, "but I can't let John an' Cindy read it. They think they're powerful smart but this is one time I come out ahead of 'em. I'll jest have to trust to what that fine lookin' feller told me

an' maybe I'll decide to buy the place." From this day Nancy took a decided interest in the arrival of the daily mail. Prior to the visit of the real estate agent she had classed the rural carrier with the rest of modern improvements, and had scored Lucinda at every arrival of a new catalog or bargain list. Now she walked to the corner where the mail box was posted, regularly every morning and, carrying back the morning mail, deposited it on the kitchen table with some disparaging comment, carefully concealing under her apron an occasional large yellow envelope, the flaming red inscription in the left hand corner informing the public that it was a message from the Consolidated Homeseekers' Realty Company.

The information that these letters contained was very gratifying to Nancy. A wealthy banker from St. Louis had bought the corner lot adjoining hers and was building a modern bungalow; the widow of a railroad president was bargaining for the lot on the east and would build a home for herself and two daughters. What an ideal neighborhood this would be. With the next mail came the news of another railroad which had already been surveyed and would be completed by spring. A theatre was nearing completion and the question of paying the down-town district was being agitated.

The news of all this advancement, coming in such glowing installments, was calculated to arouse one's curiosity, and in the breast of Nancy Riggs there awoke a great desire to see this town.

The extent of her travels had been limited to the county she was born in. She had never taken a trip in her life. How much more sensible it would be to see this place before she invested any more of the contents of the old stocking. This craving, once recognized, was not to be smothered, and the yellow envelopes which arrived daily now, glowing harbingers of prosperity and progress, were but fuel to the flame.

One morning, as Lucinda was starting for town with the week's supply of butter and eggs, she was amazed by a request from her mother to bring her enough black silk for a dress pattern and a bonnet.

"A body never knows when they're goin' to be called to go somewhere," she reasoned as she counted out the money to make the purchase, "an' it hain't never safe to git out o' clothes. Anyway a body's liable to die an' need somethin' decent to be laid out in."

"Why, mother, whatever induced you to buy a new dress?" Lucinda gasped in astonishment. "I've been trying for five years to get you to lay aside that old alpaca."

"A body old as I be never knows what's ahead of 'em," her mother eluded her. "I'm a goin' to have me a new dress an' I'm going to have Sary Pettigrew make it in the latest style."

In due time the dress was finished and carefully laid out on the spare-room bed, where Nancy made daily pilgrimages to dream and plan for her intended trip. Of course John and Cindy would storm and fume, but her mind was made up. She was going to Hyghland.

When the day arrived on which she had decided to announce her plans, in her excitement she had forgotten to make her regular trip to the mail box. She spent the morning in her room, "sorter startin' fall house cleanin'," she told Lucinda, emptying out the contents of the little tin trunk and assorting her clothes, laying back the ones she decided would do to wear in Hyghland, and carefully packing away the keepsakes she would leave behind.

"I'll tell 'em at dinner," she parleyed as she folded the skirt of her alpaca dress. "I guess they'll fuss, but I'll start tomorrow."

At dinner time John came from the barn carrying a large corrugated paste-board box, about two feet square and plastered over with red labels addressed to Mrs. Nancy Riggs.

"Here's a letter for you, Maw, from some real estate company," he called, "and a big box that came by parcel post."

With trembling fingers Nancy tore open the long yellow envelope with the familiar red letters in the upper left hand corner.

"Dear Madam," she read, as she unfolded the stereotyped sheet, "After deliberating for some time over the matter we have decided that, owing to the astonishing number of sales which we have made in the last few weeks of property in the vicinity of your house, we would

make you an offer so far ahead of the proposition made you by our representative, that even you, accustomed as you are to our unlimited generosity, will be amazed. To show you that we appreciate the influence that your name on our list of property owners has had, we are going to waive the right to hold you to your contract and release you from any further payments on your house. In accordance with this decision we have forwarded to you, by parcel post, the house which your contract calls for. Trusting that the same will reach you promptly, we beg to remain,

Very respectfully yours,

The Consolidated Homeseekers' Realty Company.

The sheet of paper fluttered from her lifeless fingers and fell to the ground.

"John," she quavered, turning to the box that sat on the kitchen floor, "open up that thing an' let's see what's in it."

John cut the cover loose with his knife and turned it back.

"Jerusalem!" he whistled, as he pulled the excelsior out of the top. "Have you gone to playing with dolls, Maw?"

He quickly turned the box down on its side and emptied out the contents—a miniature cottage about a foot high, the exact counterpart of the one in the picture that Nancy had carefully hidden away in the bottom of the little tin trunk.

"Why, mother," Lucinda exclaimed as she stood the little house on the table, "what a cute little doll house, but who did you buy it for?"

Nancy had collapsed into a chair and sat staring at the tiny structure, too dazed to speak. So this was the modern cottage that she had invested her savings in! But where was the banker's modern bungalow and the widow's up-to-date home! At last she recovered from the shock.

"I'll not stand for it!" she railed, her voice trembling with emotion. "They've cheated me an' I'll have the law on 'em!"

"Now, Maw, quiet yourself down and tell me what this thing means," John counseled her. "If this is some huge joke let us in on it, and if somebody has cheated you, the sooner we get after them the better."

Tears were running down the old furrowed cheeks as she stooped to pick up the letter with palsied hands.

"I'd orter a knowed better, John," she lamented, as she handed him the paper. "I thought I'd be smart an' fool you all, an' I guess I've fooled myself."

"This says something about a contract," said Lucinda, reading over John's shoulder. "What was it, mother?"

Nancy brought out her rusty leather hand bag and silently handed them the paper which she had so carefully hidden from them.

"And did you give them a hundred dollars?" John persisted as he quickly glanced down the paper.

Nancy nodded.

"Well, I guess you're out that much, but it might have been worse," he consoled her. "Didn't you read this contract?"

"He read it to me," Nancy explained, the quiver in her voice betraying her agitation. "I tried to read it but I couldn't understand it an' I was too contrary to show it to you."

"You signed an agreement here to pay them six hundred dollars for a house of exactly the same dimensions as this one, a hundred down and the other five hundred at the end of six weeks. The description tallies to a dot. I guess they were getting in a close corner and sent you your house to fulfil their contract. Now when you come to look for the Consolidated Homeseekers' Realty Company they'd be a thing of the past. Cheer up, Maw, and thank your lucky star that you didn't give 'em more. You're not the first one that's bought a gold brick," and he patted her on the shoulder and went out on the porch.

"Hello!" he exclaimed as a wagon stopped at the barnyard gate, "here's my new patent gate I ordered about two months ago. I thought they had forgotten to send it. Come on out here, Maw, and forget your troubles. See how easy this trips without even getting out of the buggy. I'm going to put it up there on the drive."

"That certainly is a fine thing," the old lady enthused as the agent explained the numerous advantages of his gate. "You always are pickin' up a bargain, John. I always told 'Cindy you had more sense when it comes to buyin' things than any man I ever seen. Why don't you git one like that an' put it down there in the lane in the wheat-lot fence?"

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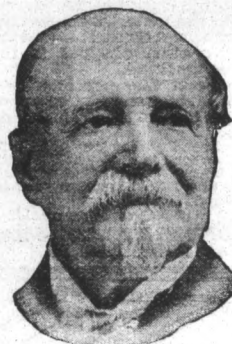


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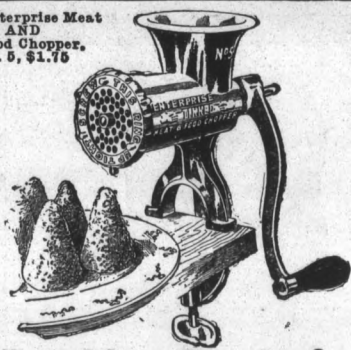
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One Legitimate Cause of Worry.

I HAVE just been reading an article on "Worry," in which the author styles the worry habit as the great American evil, second scarcely to drunkenness in its devastating effects. And he was right, for of all sins with which we are afflicted, the sin of worrying is the worst. Does it not often lead to drunkenness, either on the part of the worrier or the one whom she worries? For every man who takes to drink to drown his troubles, worries, there is another who takes to it to get rid of his wife's worries.

Really, when I see what some boys pass through with their mothers' fretting over them, I wonder that more of them don't go wrong. There is my neighbor who literally weeps mornings when her eight-year-old son starts for school for fear he will be run down by an auto or stolen by some vagabond. He is not allowed to play outside of his own yard, not even just across the street in the yard of a neighbor, because his mother can't bear him out of her sight. He wears his heavy flannels until late in June for fear he will take cold. He mustn't play ball for fear he will get struck with the ball, nor tag for fear someone will run into him and knock him down. He mustn't have a velocipede for fear of curvature of the spine, nor roller skates for fear of falls on the concrete pavement. Poor kiddie! Can't you see his future? No real boyish sports for him, unless he defies his mother. No swimming, no skating, no football, no anything but fancy work if mother could help it. He is bound to grow into a mollycoddle or a surly bear who snarls every time his mother speaks to him.

And his poor father has almost as bad a fate. Every morning he listens to the same exhortations about running for cars, jumping off before they stop, keeping an eye out for autos, keeping out of draughts, and all the rest of that lingo some women can think up. Every morning as soon as friend husband reaches his office he has to call his house to let the wife know he got there all right, and if he is five minutes late at night he always finds her at the 'phone frantically appealing to the police department to look him up. That man's record on the police blotter, if they kept record of telephone inquiries, would reach around a block.

I think my neighbor is a simpleton, though so far I've been too polite to tell her so right out like that. She isn't so polite to me. She thinks I'm a heartless unfeeling monster because I refuse to worry over my husband and children, and she tells me so every day or so. When I get my five-year-old ready for kindergarten every morning and start him off, to walk the five blocks alone, and then go to work instead of standing at the window wringing my hands for 15 minutes, she is fully convinced that it is because I want to see him killed. She is equally sure I want my boys maimed for life because I let them run like Indians, playing tag, climbing fences, throwing balls and doing all the other stunts that real, healthy, little animals think is fun. I have tried to explain to her that there is always a chance in life for accident, that there is no more danger of being crippled in a ball game than in walking down stairs if you keep your eyes open. I remind her of that old story of the man who broke his neck climbing out of bed, and tell her that the mother of boys must expect to see them taking hair-raising chances if she wants them to be fully developed, all-around active, alert, resourceful men. But it is no use. She knows I am without heart, and that ends it.

Now, being a mother, I do worry about my boys. But not about things I can not control, like sickness and accident. My only worry about them is that in some way, through some neglect of mine, they may not make good. If they fall and break their leg, that is not my fault. But if they grow up with a propensity to break their word, there is something I might have controlled. I can't help it if they take cold, but if they take something that doesn't belong to them, I can

be blamed for that. I am responsible for their character and that is the thing that worries me. If they don't make good—that's the rub. Ill-health and accident are bad, but they are really not so vital as failure or downright wickedness. But that sort of thing never enters my neighbor's consciousness. It doesn't worry her a mite to think her fussiness is making a namby-pamby weakling out of her boy; he actually snuffles when he gets a sliver in his finger, or falls down. His mother has hopped about, protecting him from physical pain so acciduously that he is a veritable booby. That would worry me sick, but his mother thinks it is quite all right.

She knows I don't love my husband, too, because I don't fuss about him. In the steel plant, which he daily inspects, men are sometimes hurt by falling beams or by the machinery. There is always the chance that some day it may be him instead of a foreign laborer. According

to my neighbor, my duty as a loving wife is to weep on hubby's shoulder each morning and beg him for my sake and the boys' to have a care. I do not believe that such a procedure would make the poor man a bit more quick of eye or steady of nerve, so why weep? I refuse to rave and tear my hair, too, when he is sent occasionally to inspect bridges, though, of course, he might take a disastrous tumble. I simply will not consider the risk to his body, but I worry for fear the bridge he has pronounced safe may tumble down the next day, and he shall forever after be counted among the failures. It is not of his physical safety I am thinking. That is not in his keeping nor in mine. But it lies within him to make good in his profession. If he should fail there that would be his own fault.

Incompetence and wrong doing, these are the only legitimate causes of worry. And even these we will not let depress us unduly if the fault is not ours. To live in a constant state of fear is as wicked as to keep constantly drunk, and this is what we do when we worry.

DEBORAH.

The Country Woman's Opportunities for Money Making—By Hilda Richmond.

AFTER all is said about the sturdy oak and the clinging vine in regard to married life, and the supporting of wives by husbands, there lurks in the heart of every woman a longing for "her own money." And if she be a healthy, normal creature, she wants to make that money herself. The idle, selfish, careless women, in riches or poverty, who have no ambition to make money for themselves are freaks, for the desire for independence is almost universal. Let someone explain this who may know more than I do about the human mind, but certain it is that the money earned for one's self is more precious than any given or inherited or otherwise acquired without labor. The young women who spend a few years before marriage earning their own money make the best wives and mothers, for the training they receive out in the busy world is invaluable. Very often it is necessary for a woman to stifle the desire for money-making because her home duties or her health or a dozen other things interfere, and very often it is entirely wrong for her to enter the field of women's work because the work should be left to those who need to earn money, but the desire refuses to die. There are many cases where women who were left widows and had to support their families, were more prosperous than while their husbands lived. No man likes to have a woman manage his affairs, but often the shiftless men would do well to turn the management over to their wives and be content to earn the money necessary for the support of the family, for in the latter case prosperity and comfort would speedily take up their abode in the home.

Of all women the one in the country has the best opportunities for making money. She need have no compunctions on the ground of competition, "taking bread out of other women's mouths," for statistics will show that very many things are imported from Europe and other countries to our own land that might be produced here. Take eggs, for example. The world is always crying for more strictly fresh eggs, and likely will be for years to come. And it is the same way with good cream and butter. There are many families willing and anxious to pay a good price for sweet, clean butter and milk, but who have to take what they can get because the demand is greater than the supply. It would be easy to go through a whole list of such articles, and yet this is only one branch of the work that a country woman may take up. Her opportunities are boundless, and the woman who has health and strength and time and patience may have a nice little income if she chooses. It goes without saying that the woman with many persons to cook for, or the mother of little children, should not overtax her strength

trying to make money, but for the rest—less, ambitious girls and women on the farms who find time hanging heavily upon their hands, there is nothing better than to take up some hobby that brings in money. The most popular page in the agricultural paper with the ladies is almost always the one with the money making hints sent in by the readers.

Butter making has been so completely revolutionized during the past few years, that it is no longer the back-breaking task it once was. To be sure, the average barn is not supplied with milking machines, but every progressive farmer does have a separator through which the milk is rapidly separated into cream and skim-milk. This cream sells for fancy prices in the near-by towns or can be shipped to the nearest city. Being perfectly fresh and perfectly clean, it can be kept much longer than the old-style product that had to be ripened in the crocks before it could be skimmed. Many farms have power churns, so the labor has been reduced to working the butter and cleaning the few utensils. The woman with a few cows who lives near town does well to furnish cream to private customers as she can charge more that way, but where many cows are kept it is better to take less and get rid of the whole product together.

So very much has been said about the "chicken business" that a brief paragraph will be sufficient on that subject. Chickens kept in clean yards, free from vermin and rats, do pay a great deal on the investment, and the woman who gives them intelligent care never need complain of "bad luck." Whether eggs are sold to private customers, shipped to the city or sold in open market, they bring good prices, and are about as easily produced as anything the country woman can undertake. Chickens, ducks, geese, turkeys and rabbits also bring in a fine income at all seasons of the year. With a young chicken weighing two pounds bringing 40 cents, and the people from town going after it themselves, it is a wonder more women do not inform themselves on the subject and go to work. And the beauty of this business is that it doesn't take a lot of money to start up. One of the most successful poultry raisers, in a small way, I ever knew was a woman who had shacks—they were nothing else—for chickens and destroyed them by fire every year. The winter's wood was ranked in a three-sided affair and a front with a few little windows set in place, then the pole roof covered with straw or fodder was put in place and the whole thing banked with fodder or refuse to keep out the cold. The next summer that firewood went into the kitchen stove and a new house went up on a clean spot. That woman sent from \$3.00 to \$5.00 worth of eggs to town every week, re-

ceiving two cents more on the dozen than the groceries paid, because her eggs were strictly fresh, and she was never over-worked either. Her flock varied from 100 to 200 hens for she was continually weeding out the old and worthless ones. Two hundred dollars a year may seem a small amount to some people, but it must be remembered that a country woman with that much a year for her own is rich.

In small fruits there is another field that has scarcely been touched in many localities. Fine strawberries, currants, berries, cherries and other fruits find ready sale even in small places, while the cities are seldom oversupplied. Of course, good judgment must be exercised in this as in all other things. The woman who lives ten miles from market ought never to even dream of raising strawberries for sale. By the time she does her work in the morning and picks her berries it is nearly noon and the market practically over for the day. She might profitably raise her berries and make them up into delicious jams and jellies for sale, but to drive ten miles with berries in addition to her regular work, should be entirely out of the question with her. Then, too, it is almost always necessary to be near town in case you need extra help in picking your fruit. Cherries ship very well and need little cultivation, so the wise people in the country are sticking trees here and there in waste patches knowing that in a few years the trees will bring fine returns. Where small fruits are raised for canning it is well to secure a grocer who will dispose of your product or take orders from private customers. By beginning in a modest way and working up, a fair income can be made, but the work comes at the hottest time of the year. Many families going away for the summer are glad to leave their orders with a competent worker, knowing that the next winter they will want all the things it is impossible to put up at a summer resort. To the clean, skillful worker there is a great opportunity, but for the woman who tries to see how much she can do in a day without regard to how she does it, failure is sure and certain.

Often a woman with a great deal of time on her hands makes money by dabbling in a general business instead of taking up one particular thing. One woman whose children were grown determined to make a little money for herself for church dues, Christmas and other things, but she did not, at first, see what could be done. They had a good garden, a small orchard, a fair sized flock of poultry—in short, they raised what they wanted for themselves aside from the general crops and made a specialty of no one thing. Besides, her husband frowned upon the idea of extensively taking up one branch of work, so she felt herself greatly handicapped. However, where there is a will there is always a way, so the very next time she went to town a clean market basket went with her which she took to the owner of a high-priced boarding house. "If you like the things, I will be glad to take your order for more," she said, and went away without more words.

"The things" proved to be some fresh radishes from the garden, a little crock of cottage cheese, a loaf of home-made bread, some fresh rhubarb jelly, and underneath, covered with cool lettuce leaves, were peas fresh from the garden. She immediately received an order for more stuff "just like that" over the telephone, and a long consultation was held as to the possibilities of that farm for the boarding house. The peas were soon gone, but there were some extra beans and other garden products. The boarding house was by no means supplied entirely from that garden or the two Jersey cows or the rows of currant bushes and raspberry vines, but the fresh, delicious things the woman in the country could spare were eagerly bought by the city woman at fair prices.

Very often a woman can, with a good hot-bed, raise plants for the neighbors and make a neat sum of money. In this way the work comes all at once, but the rest of the year she is free to do other things. Tomato, pepper, cauliflower, cabbage, egg plant, celery, and all sorts of flowers may be started in a hot-bed, and even a great deal may be done with a cold-frame or sheltered bed. One busy woman always made \$20 or \$25 every spring off her hot-beds, and she declared the work was more like play than anything else. With ten cents per dozen for tomato plants and other vegetables, and ten cents per dozen for pansies or verbenas, she thought herself fortunate, in-

deed. Sometimes she found room to start geranium slips that found ready sale on Decoration day, and often raised her own early radishes and lettuce while the plants were small. The soil was rich and warm, and the weeding, watering and covering were her only tasks until it came time to sell the plants when she was quite busy with her many customers. It would take almost a volume to speak of the many possibilities of the vegetable garden, but everything brings money, from onion sets to pop corn, and the woman who is not too busy with her housework may find pleasure and profit in her garden, provide it is not hopelessly barren and stony.

And this does not exhaust the list of outdoor tasks by any means. Many women have made money and regained health by working with bees, with violets, with squabs, with fish culture, with pigs, with calves, with apples and with any number of other occupations belonging to the farm. Too many women in the country never enjoy the fresh air and sunshine, for they shut up their houses to keep out dust and heat, they think, and in so doing shut out the life-giving fresh air. Often the money-making desire has been the salvation of the health of the family, for the woman who is out much in the garden or poultry yard can not endure the musty, stale atmosphere of the dark rooms, and a revolution takes place at once.

Even the woman who feels that she can not leave the house to make money may find many things to occupy her leisure time. From working for one of the numerous Women's Exchanges to doing sewing or weaving for her neighbors, the thrifty woman may turn many a penny, for the busy mothers and housekeepers in the country are crying as loudly for help as ever the town ladies are. Sewing must be done, preserves must be made, and food provided every day in the year, and help is almost out of the question. Some busy mothers of little children keep down their tasks as much as possible by buying their bread and butter and hiring as much sewing done as possible, and for such women a neighbor who will help out is a great boon. During the long winter days many ladies make comforters, rugs, fancy work, quilts and other saleable articles, combining business with pleasure, for it is a pleasure to turn out pretty things that fill the purse with money. The country woman feels that everything she does is almost pure profit, since many of the things would otherwise go to waste, and in winter time drags along. The temptation to overdo comes to many women, but the wise workers never neglect their homes in order to earn a few extra dollars.

With her own money for gifts and for the little things every woman wants, life in the country is sweeter and better for the wife of the farmer always. If all men were educated to the "partnership" idea perhaps the desire for money making would die out of the hearts of married women, but it will be a long time before all men arrive at that idea. Some ladies talk about having an allowance, but that is the wrong word to use. The wife should be as free to use money as the husband, and the purse should be used by both alike, but this ideal state only prevails in a few homes, and until it is universal, women everywhere will be inquiring, "How can I make my own money?"

CONTRIBUTED RECIPES.

Sweet Potato Cake.

Grate or run through food chopper, sweet potatoes enough to make three cupfuls, add one cup each of syrup and brown sugar, two eggs, one tablespoon each of butter and mixed spices, cloves, cinnamon, nutmeg and ginger. Stir well, then add the juice and grated rind of one lemon, half a teaspoon of salt, half cupful each of seedless raisins and currants. Mix thoroughly, and bake in slow oven. Be sure to add no flour, soda or baking powder.

Molasses Layer Cake.

One cup molasses, half cup sugar, two eggs, four tablespoons butter, one teaspoon each cloves, cinnamon and salt, one teaspoon soda dissolved in half cup buttermilk, two cups flour. Bake in three layers and put together with the following frosting:

Frosting.—Boil together one cup sugar and half cup water till it threads. Beat the white of one egg to stiff froth, add one cup chopped raisins, and pour hot sugar in, beating briskly. Flavor with lemon, and spread between layers. This is the best molasses cake I have ever tried. The recipe was never known to fail.—M. C.



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Don't let your boys go to the city—keep them in the country where their health and morals are both preserved and make them successful and independent farmers owning their own farms and sharing an interesting community life.

Montana is the place for young men—out there the other day a boy—Tom Denton, of Carbon county, age twenty—made a record for wheat growing—It might have been your boy. Give him the right start—in a new country—on virgin soil.

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FINE heaters—glass oven door ranges, oven thermometer, etc.—any style you want—\$5 to \$8 months credit if you wish. Don't pay dealer's high prices. Over 250,000 people have bought Kalamazoo stoves. You will too, when you see the quality. Write for Catalog 113. See what you can save on your new stove. Kalamazoo Stove Co., Mfrs. Kalamazoo, Mich.

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Write for a copy today—see the wonderful Bargains it contains—see the dollars it will save you—see how you can get GUARANTEED GROCERIES at about half usual prices: Laundry Soap 2 1/2c a bar—Toilet Soap (3 bar box) 12 1/2c—Baking Powder 7 1/2c a can—Tea 30c a lb.—Starch 5c a box—Extracts 10c a bottle—etc., etc. Learn how

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With orders for our GUARANTEED GROCERY PRODUCTS—allow 30 days trial—ask no money in advance—let you be the judge of the quality. Send for book today—a postal brings it. See the hundreds of beautiful things you can get for home and family without a cent of extra cost on our money saving FACTORY-TO-HOME PLAN of buying. Ask about our Club of Ten plan.

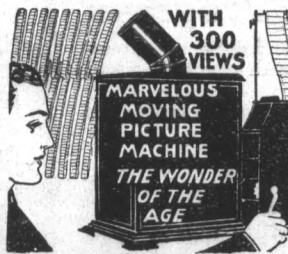
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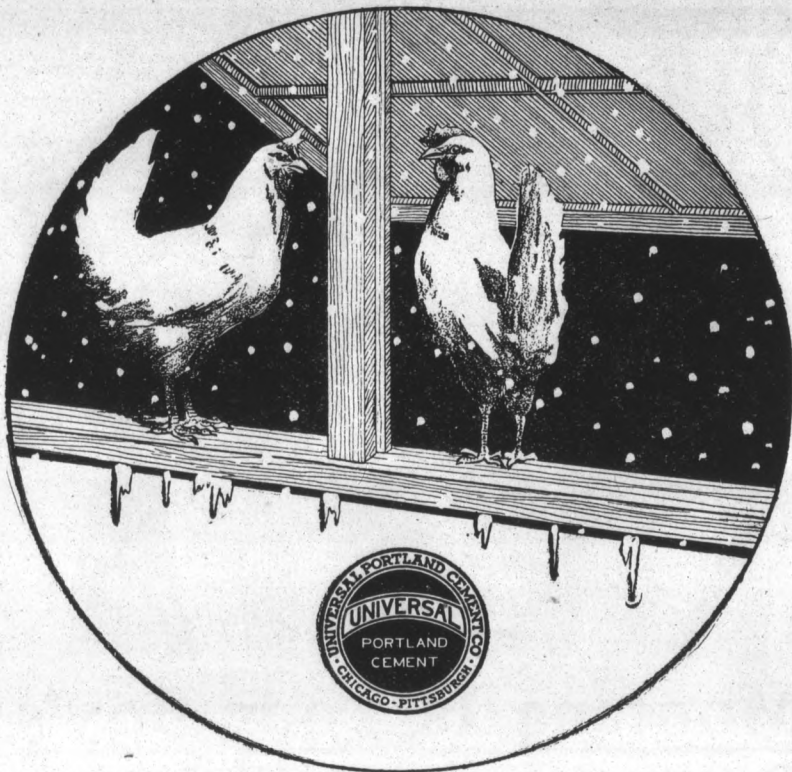
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Give them plenty of sunlight and fresh air. Feed them well. Keep them in a warm, dry, clean concrete henhouse built of

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Wooden poultry houses are the breeding place of germs; frequently cold and damp; never clean. A concrete henhouse is easily disinfected, fireproof, free from rats and mice. You can build such a structure yourself at a very moderate cost. Send for our free book "Small Farm Buildings of Concrete".

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No need to call for help to change your hay rack or wagon box—you can do it yourself, easily, with a



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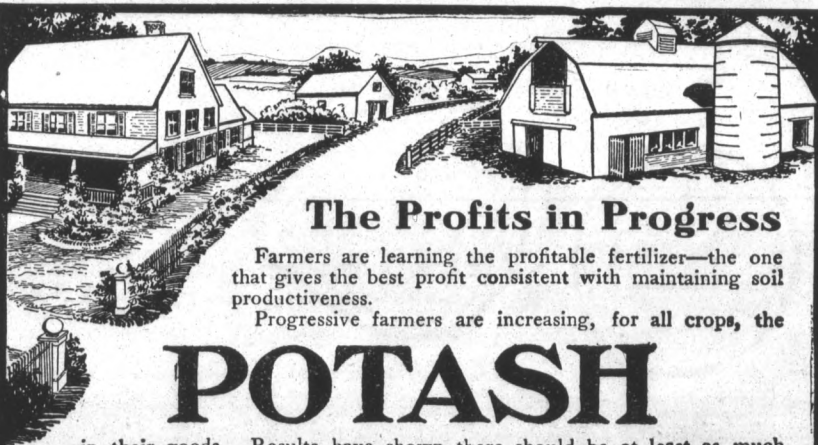
Enables one man to change wagon boxes, lift gas engines and handle heavy loads easily. It elevates, lowers, locks and unlocks with one rope only. Holds load at any point. Heavier the load—tighter the grip.

No. 3 (illustrated)—Capacity one ton, \$2.75. One of a dozen sizes, 400 pounds to 4 tons.

See your hardware dealer or write today for FREE BOOK.

The only hoist lock adjustable to various sizes of rope. Positively holds load, even if rope is worn, wet or greasy.

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Farmers are learning the profitable fertilizer—the one that gives the best profit consistent with maintaining soil productiveness.

Progressive farmers are increasing, for all crops, the

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in their goods. Results have shown there should be at least as much Potash as Phosphoric Acid, for ordinary farm crops take from the soil from 2 to 4 times as much Potash as Phosphoric Acid. For potatoes, truck and fruit the Potash should be double the Phosphoric Acid.

If your dealer insists on carrying only low grade, 2% Potash goods, we will sell you Potash in any amount from one 200-pound bag up.

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San Francisco, 25 California Street

Farm Commerce.

Successful Plan For Marketing Lambs.

INASMUCH as the effects of co-operation among farmers in marketing their products is being widely discussed, the work of the Goodlettsville, Tenn., Lamb Club, organized in 1882-83, and now in existence for thirty years, is of timely interest. The club was organized because the sheep raisers in the vicinity of Goodlettsville found that by banding together they could make larger offerings of more uniform lambs, utilize car space to better advantage, and by making available a larger number of good lambs ready for shipment on a single day secure greater competition among the buyers. The following facts are the result of a study of this club and other lamb clubs in Tennessee recently made by the Bureau of Animal Industry.

The Goodlettsville Lamb Club originally consisted of about one dozen farmers and its membership has increased until at one time it numbered 85 members. It has as officers a president and a secretary, and an executive committee of three members, of which the secretary is a member ex officio. The club is not a chartered institution and is more in the nature of a partnership. Its members agree to abide by its rules and constitution, although the organization is not especially binding. The president calls a meeting about April 1. Prior to this meeting its members have the privilege of selling lambs and wool at private sale. At the meeting, however, each member reports the number of lambs and the amount of wool he will have to sell through the club and thereafter can no longer sell individually. After the report the executive committee has unlimited power.

This committee then determines the total number of lambs and date or dates for shipment. Ordinarily one shipment is made in the early part of June and another is scheduled for the early part of July. This year's sales were dated June 10 and July 15. The first delivery is made up almost entirely of "firsts." The second delivery which contains those that are too small for the first sale, is, as a rule, a poorer quality, as the old lambs do not make as great or satisfactory gains as the early ones.

There is little uniformity as to methods of sale. This year, as is often the rule, the wool was sold to a local woolen mill. It was graded in three grades—clean, slightly burred, and burred, and sold for 23½, 20½ and 17 cents per pound, respectively. These prices average better than those paid by local buyers, but because the other wool sold to these buyers is ungraded, it is difficult to compute the exact monetary advantage to the club members.

The sale of lambs through the club may be announced through the local papers, by means of posters or post cards, or by word of mouth. This announcement varies with the locality, and the club may change its methods from year to year. Following is a typical advertisement of such a sale by a Tennessee Club:

LAMBS FOR SALE.—The Lamb Club will sell by sealed bids about 800 lambs. Bids close May 20. Lambs are to be fat merchantable lambs weighing from 55 pounds up, and will be delivered from the 9th to the 12th of June. Club reserves the right to reject any or all bids.

(Signed) Secretary.

Some of the clubs will accept bids by telephone or mail. The time between closing bids and the actual sale of lambs varies. Where bids closing on the day of sale are not satisfactory the club then ships its own lambs in cars previously ordered, and which the buyers have agreed to use if their bids are accepted. In some cases bids are accepted several weeks before delivery date, and the Goodlettsville club sold on futures this last season. Selling at or near the day of delivery is generally more popular with buyers and purchasers.

On the day of delivery at Goodlettsville the lambs begin to come in early in the morning in wagons or in flocks. The driven lambs are marked with bright colored paint which avoids confusion where flocks become mixed. Lambs are put upon the scales which are handled by the executive committee. Lambs lacking in condition or weighing less than 60 pounds are discarded as culls. Comparatively few are thrown out, however, as the growers cull their lambs at the farm. Of the culls the greater part are those lacking in age and of small size, but there are also some large ram lambs that have become what is locally known as "staggy."

The president and one or two assistants weigh the lambs and credit each grower with his total weight. Delivery is commonly made before noon in time for loading. Payment is made on the day of delivery. The president or the executive committee pays the expenses, which are small, and apportions the balance among the members according to the number and weight actually delivered. The business of the day is followed by a dinner of the club which adds a social feature.

In addition to the Goodlettsville Club there are lamb and wool clubs at Mt. Juliet, Baird's Mill, Allisona, Martha, and Flat Rock, in flourishing condition. These clubs each handle from 600 to 2,500 lambs per year. New clubs are occasionally formed and these are generally successful.

Farmers Should Know Freight Rates to Cities.

How much will it cost to send a carload of beans to Boston, or a carload of potatoes to Birmingham? We presume that there are very few farmers who know the freight charges to the important consuming centers on the different staples they grow, and so, of course, one may be excused if he is unable to answer exactly the above questions. But while these seemingly little matters may not have been so useful in the conduct of the marketing business in the past, the country is now entering into an age of economy where precedent must give way to better methods, and where these same little matters will become of real value—even indispensable to the farmer.

A knowledge of transportation charges from the local town to the principal cities puts the informed person in a much more advantageous position to market his goods than he would otherwise be. That knowledge will aid him in several ways: In the first instance he can better interpret market quotations. What does it profit a man if he knows that hay is worth \$12 a ton for a certain grade in his home town, \$18 a ton for the same grade in Cleveland, and \$22 in New York, and does not know how much it takes to send that hay from his shipping place to Cleveland or New York? It may cost him more to send the hay to those points than the difference in the quotations; or he may have a margin that would well

pay him to undertake his own shipment.

The information will not only assist him in the interpretation of the quotations but, as a consequence of this, will show him where he can best dispose of his holdings. By knowing the charges to the chief buying centers one is armed with information that will direct him to the place where he can realize the greatest profit from his sales. He can then figure it out mathematically whether to ship to New York, Boston, Chicago, or to sell to his home dealer, taking into consideration, of course, the additional expense and chances incident to the shipping.

But the largest advantage of this knowledge of transportation rates will be in the relations with the home dealer. For years to come a comparatively small portion of the staples produced on the farms of this section of the country will be handled by others than local dealers. And if their commissions are exorbitant, and they have been able to take such commissions by shamelessly claiming that the transportation companies charge so much to carry the goods that they cannot possibly pay more, then the right way to answer such claims is to be able to tell those same dealers just what it costs to send a carload of hay, or wheat, or potatoes, or live stock, to a point where quotations are so and so much higher than the price he is offering. If

they know that the farmer knows just what these charges are then they will offer him a reasonable price for his goods. These dealers are usually wise enough not to put themselves in an unfavorable light before their farmer patrons; and for this reason it is the part of wisdom for one to secure and have at hand the exact transportation charges for shipping the kinds of products he sells, to the important consuming centers, or to those centers to which his dealer ships. And what has been said of freight charges is equally true of express charges.

After having satisfied oneself of the value of this knowledge of transportation rates, the question naturally arises, how shall we secure the information? Knowing that tariffs are occasionally adjusted to meet decisions of the interstate commerce and our state railroad commissions and that it is useless for one to have a schedule of rates from a hundred towns in the state when he is interested in his local shipping point only, it is readily seen that a printed list of rates is unnecessary and not always reliable. Usually these schedules, or "keys," as they are sometimes called, are difficult to understand. Any scheme that purports to show the rates from a hundred different shipping points to as many other places, must of necessity be cumbersome, complicated and hard to get at, especially where the author is not at hand to explain. And furthermore, since there is only one of the hundred, or more, shipping points in which the reader is concerned, he is more than likely to cast the whole schedule aside after going to the trouble and expense of providing himself with a copy.

But there is a more reliable way for a farmer to secure the rates wanted, and that is by requesting same of his local railroad agent. The agent is at the depot partly for the purpose of furnishing the public with just such information. And when each community has a man whose duty it is to give the intelligence of which we have been speaking, it is wise to ask it of him, for he is responsible. The telephone or a postal card should bring the desired schedules. Likewise the express charges for shipping poultry, eggs or any products one may have to sell, can be had from the express company's local agent.

After one gets the rates he should file them away for reference. To avoid the possibility of being misled through any changes in tariffs, one should make inquiry perhaps every year or so. Thus he can keep himself informed on matters that are important.

FINDING FAULT WITH DIRECT MARKETING.

Should you care to argue the merits or demerits of the plan of selling farm products direct to consumers, you should prepare yourself by studying the leading article in the Farm Commerce Department of the January 17 issue of The Farmer. It gives the other side, and is written by an able man.

Crop and Market Notes.

Michigan.

Washtenaw Co., Jan. 1.—The first day of the New Year brings continued fine weather just below freezing. The roads have been worn smooth, making driving and teaming a pleasure, also demonstrating anew the efficiency of the King drag. On roads where they have been persistently used, they are almost like a city boulevard. This being a dairy community only 29 miles from Detroit by rail where the milk mostly goes, the farmer's energies are mostly given to producing the most milk possible, which at \$1.80 per cwt. on a 3½ per cent basis, brings a good income. It is deemed more profitable to produce milk than to feed other kinds of stock. Poultry receives considerable attention, but for some reason laying hens are very scarce. Eggs have been for some time from 35¢ to 40¢ per dozen. While so far we have had practically no snow, wheat and clover seeding appear in good condition. There is a good deal of unfavorable comment on the manner in which taxes are increasing from year to year, an average increase of 25 to 30 per cent this year. We seem to be governed largely by commissions of various kinds.

Livingston Co., Jan. 1.—We are having fine weather with just enough snow on the ground to protect wheat and clover, which went into winter in fine condition. The condition of the roads at the present time could not well be improved upon. There is about the same amount of stock on feed as usual, but as this is a dairy section, more attention is paid to the milk business than to the stock feeding business. More farmers are going into the registered Holsteins each year and as a result, both the stable equipment and the sanitary condition of the stables in this section have been vastly improved.

Mecosta Co., Jan. 2.—Snow is falling

for what appears for sleighing, the first of the season. Seeding all looks good. Very little stock being fed. Hens are beginning to lay. Very little marketing now. Some potatoes being marketed at around 50¢. The potatoes are finding their way to market. A considerable quantity were disposed of last fall and still there are a good lot remaining in the farmers' hands in this locality. The farmers are now cutting wood and getting ready for next summer.

Hillsdale Co., Jan. 1.—Farmers in this section have been favored by unusually fine weather, and considerable plowing was done in December. The weather is favorable for most any kind of work, although the ground is frozen at present, putting an end to plowing. These short days a large portion of the time is consumed on many farms, doing the winter chores. Fence building is an occupation that has been carried on quite extensively since the fall work was completed. Those fortunate enough to possess a wood lot are cutting wood for home use, and some are selling wood at about \$2.50 per cord delivered. Hens are laying unusually well for the time of year, many pullets having begun to lay. Eggs are now bringing 28¢ per dozen. A few hogs are still being marketed, but the great bulk of them were sold in November and December. The price now is about 7¢, alive. Farmers who make butter are receiving 28¢ per lb. Little else is being marketed at present. Quite a good many lambs and some cattle are being fed for shipment in February and during the spring months. Wheat is looking pretty well, but is infested with the Hessian fly as has been the case for three previous years. But little snow has fallen so far, and but little has been needed by the wheat, owing to the mild weather. The seeding that escaped last summer's drought is looking well. Roads are in fine condition, and have been for several weeks.

Shiawassee Co., Dec. 31.—Very little snow. Roads in fine condition. Several miles of state reward road will be built this coming year. Farmers busy hauling manure and cutting wood. A few small lots of timber have been sold and being cut for lumber. Farmers are becoming more interested in woodlot management and good judgment is being exercised to reserve the young growing timber. A large number of lambs are on feed. No cattle and about the usual number of hogs in the country. Wheat is coming along in fine condition, although not as well covered with snow as is necessary if weather turns colder. Very little farm produce being marketed. Hens are beginning to lay a moderate number of eggs, although farmers do not consider winter eggs profitable at present prices.

Saginaw Co., Dec. 30.—The last days of the old year find Saginaw county farm outlook very promising. The good fall weather favored corn husking, plowing and all improvements. Some progress has been made during the past year along the lines of pure seed selection and in the breeding of high-class cattle and horses. Work is planned along the lines of agricultural education both for mature and juvenile farmers, for the coming year.

Delta Co., Dec. 29.—We have had a very mild December. The ground did not freeze up until the seventh. Most of the farmers got their plowing all done. About two inches of snow has fallen and not much frost. Winter grain is all right. Lots of hay in the hands of farmers. Stock all looks good. Not many farms changing hands, a few farms being sold. Lots of potatoes being held until spring. As this is a lumbering county yet, the farmers are cutting and hauling wood to market and getting out some logs. Wood is worth from \$5.00 a cord. Hay \$13.50@16; potatoes 50¢; wheat 85¢; oats 55¢; corn 90¢; butter 30¢@35¢; eggs 30¢; beef, dressed 13¢ lb; pork 12½¢; mutton 12¢.

Lapeer Co., Dec. 24.—Must say that the year 1913 has not been, as we should say, an entirely successful season for farmers in this section. As close as we can note, produce seems to be practically all gone to market. A little hay and a few beans in small parcels are about all that is selling now. Beans are away down and hay is \$10@13 per ton. The past season was unfavorable for the corn crop, which ranged from no crop to 90 bushels of ears per acre. Beans from 13 bushels down to as low as two or three bushels per acre, while some were hardly worth pulling. Potatoes generally are light; yields range from 40 to 215 bushels per acre.

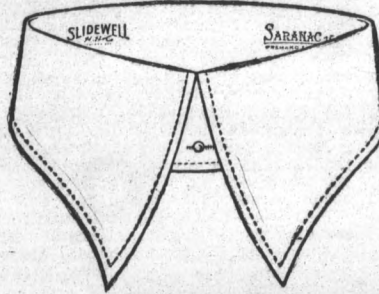
New York.

Chautauqua Co.—Weather is mild; not enough snow to speak of. Some farmers still plowing. Country roads are in fine condition; autos still running. Live stock looking well; about the same number of head fed as last winter. Chicken business is being run at a loss, hens not laying many eggs as yet. Winter wheat and rye looking at its best. About all farmers are having for market now is apples, potatoes, butter and a few eggs. Most farmers spend the winter pruning their grapes and getting the brush out. Butter 38¢; eggs 42¢; apples 90¢; potatoes 80¢; chickens, live 17¢; veal 16¢; hogs, dressed 10¢; milk cows \$25@90.

Genesee Co., Dec. 24.—The drought, of course, has been broken, but our soaking fall rains have not as yet come. It has been a remarkable fall for getting work done. Lots of plowing has been done. Very few real bad cold days to date. Taking farmers as a class, 1913 has not been a successful season for them in this section. Peas about the only good crop; they were a "bumper crop." Those farmers who were fortunate enough to be near a cannery and grow them, made big money. Outside of this, the average farmer made very little more than a living, after figuring interest on money invested in high-priced lands, stock and (Continued on page 42).

SLIDEWELL COLLARS

THE collars that have become a national moral influence through saving the tempers as well as the time and ties of collar wearers.



Saranac—the new SLIDEWELL—is distinctive along the low cut, long point idea so well liked just now by conservative good dressers.

And it has the permanent back button shield that permits free movement of the tie, and the graduated t.e space that no laundering can destroy—the two exclusive patented features that make SLIDEWELL collars different—and better—than any collar you can wear.

Your dealer will show you SARANAC and many other Slidewell styles at 15c, 2 for 25c.

HALLMARK SHIRTS

The kind of shirts you have always wanted, at the price you want to pay. Guaranteed fadeless from sun, tub or perspiration.

Greater variety of fabrics than ever—all the correct shirt styles for every occasion. Haberdashers everywhere—\$1, \$1.50 and up.

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I TAN
Horse and Cattle Hides without the use of acids—by a slow, careful, quality-work process exclusively my own—the result of nearly 30 years of practical experience. That's why my hides give maximum wear—and are always soft and pliable—never harsh or oily! I'll make up your horse and cattle hides—or fur-skins of any kind—into

Finest-Quality Fur Coats, Ladies' Furs, Robes, Rugs and Mittens

If you're looking for guaranteed work and fair, square treatment, see my agent today—or write direct to me for my new free catalog—handsomely illustrated in colors.

Frank Martin
460 Prospect Ave. Milwaukee

New Scientific No. 20 Mill

Heavy steel logs and steel hopper. Most efficient and strongest small power mill ever built. Will grind cob corn, shelled corn, oats and all other small grains to any desired grade, from hominy feed to meal.

Fully Guaranteed

Equipped with flywheel, cold rolled steel shaft, end thrust ball bearing and 8-inch high carbon grinding plates. Two sets of plates furnished with each mill.

Adapted for use in any locality. We stand back of every claim we make for it. Write for descriptive catalog.

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Harris Feed Carriers and Litter Carriers

make mean barn work easier. Simple to operate, roller bearing, self-cleaning. Strong construction makes them practically indestructible. Thousands of pleased Dairymen use Harris

Labor Saving Barn Equipment

Harris Stalls and Stanchions make cows more comfortable, are easily kept clean and require no repairs. Let us mail you our

FREE Illustrated Catalog Describes complete line of high-grade barn necessities. Send for it to-day sure.

Harris Mfg. Co., Box 50 Salem, O.

20 Reasons Why You Should Investigate the SANDOW Kerosene Stationary ENGINE

It runs on kerosene (coal oil), gasoline, alcohol or distillate without change of equipment—starts without cranking—runs in either direction—throttle governed—hopper cooled—speed controlled while running—no cams—no valves—no gears—no sprockets—only three moving parts—portable—light weight—great power—starts easily at 40 degrees below zero—complete, ready to run—children operate them—5-year iron-clad guarantee—15-day money-back trial. Sizes 2 to 20 H. P. Send a postal today for free catalog, which shows how Sandow will be useful to you. Our special advertising proposition saves you one-half cost of first engine sold in your county. (167)

Detroit Motor Car Supply Co.
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\$10,000 Backs

Hertzer & Zook Portable Wood SAW

Guaranteed 1 year. Money refunded—freight paid both ways if unsatisfactory. Only \$10. saw to which ripping table can be added. Operates easily. Catalogue free.

Hertzer & Zook Co., Box 23, Belleville, Pa.

PUMP GRIND SAW Made for Hard Use.

Wood Mills are Best. Engines are Simple

Feed Grinders, Saw Frames, Steel Tanks

CATALOGUES FREE AGENTS WANTED

Perkins Wind Mill & Engine Co. Est. 1860
135 MAIN ST. Mishawaka, Ind.

BOWSER SWEEP MILLS

Different from all others, 1/4 or 2 horses. Grind Corn with shucks and all small grains. (Also make 10 sizes of belt mills) FREE—Booklet on "Feeds and Manures" D.N.P. Bowser Co., South Bend, Ind.

NOTICE

At the annual meeting to be held in the city of Hastings on January 13, 1914, to commence at ten o'clock A. M., the members of the Michigan Mutual Tornado, Cyclone and Windstorm Insurance Company will vote on amendments of sections 5 and 7 of the charter of the said company.

D. W. ROGERS, Sec.

Dated at Hastings, Mich., Dec. 9, 1913.

THE RATCHET WIRE SPLICER

Wraps large or small wire in narrowest space in woven fence. Sample by mail post paid 50c. Agents wanted. Free illustrated circular. A. B. PROBASCO, Lebanon, O.

Markets.

GRAINS AND SEEDS.

January 6, 1914.

Wheat.—Holiday dullness in the grain markets has continued over into the present week and prices have not changed materially. The news of the past few days favors both buyers and sellers. It has been many years since the wheat crop went into winter quarters in better condition than it did this season, and the acreage is estimated to be above normal. On the other hand, farmers are delivering wheat to the elevators in small quantities; a good demand is being made upon the Canadian supply; Russian offerings are smaller; Argentina's export surplus is not only far below the amount usually sent abroad, but the quality has been greatly impaired by recent rains, and Australia's exports are being restricted. It would seem, therefore, that prices ought not to go far below the present range of values. One year ago No. 2 red wheat was quoted at \$1.13 per bu. Quotations on the local market are as follows:

	No. 2	No. 1	White	May
Wednesday	99	98 1/2	1.04	
Thursday	98	97 1/2	1.04	
Friday	98	97	1.04 1/2	
Saturday	98	97 1/2	1.04 1/2	
Monday	98	97 1/2	1.04 1/2	
Tuesday	98	97 1/2	1.04 1/2	

Chicago, (Jan. 6).—No. 2 red wheat, 97 1/2c; May, 91 1/2c; July, 87 1/2c per bu.

Corn.—Corn values have been maintained on a steady basis throughout the week just past, in spite of the liberal increase in the visible supply, which shows over 4,000,000 bushels more of the cereal in sight than appeared a week ago. There was also opposition to higher prices in the receipt of corn from Argentina where the crop is reported large. One year ago the price for No. 3 corn was 48 1/2c. Quotations for the past week are:

	No. 2	No. 2	Yellow
Wednesday	64	66	
Thursday	64	66	
Friday	64	66	
Saturday	64	66	
Monday	64	66	
Tuesday	64	66	

Chicago, (Jan. 6).—No. 2 corn, 61 1/2c; May, 66 1/2c; July, 65 1/2c per bu.

Oats.—Prices remain the same as they were when they closed a week ago. The delivery of oats has been rather moderate during the holiday week with the demand somewhat reduced from normal. One year ago the price of this cereal on the local market was 35 1/2c for standard. Quotations for the past week are:

	Standard	White	No. 3
Wednesday	41	41	
Thursday	41	41	
Friday	41	40 1/2	
Saturday	41	40 1/2	
Monday	41	40 1/2	
Tuesday	41	40 1/2	

Chicago, (Jan. 6).—No. 2 oats, 40c; May, 39 1/2c; July, 38 1/2c per bu.

Beans.—Improved local demand and limited offerings have made higher quotations necessary. The market is firm at the new figures. The local board of trade quotes immediate and December shipments at \$1.85; Jan. \$1.87; Feb. \$1.92 per bu. Chicago reports a small trade. Pea beans, hand-picked, choice, are lower at \$1.90@1.95; common \$1.60@1.75; red kidneys, choice, higher at \$2.82 1/2@2.85 per bushel.

Rye.—This cereal rules lower. No. 2 is quoted at 66c per bu.

Barley.—Higher. At Chicago barley is quoted at 50@72c per bu., while Milwaukee quotes the malting grades at from 56@78c.

Cloverseed.—Although the trade is active no price changes of importance have occurred. Prime spot is quoted at Detroit at \$9.35 per bu; March, \$9.45. Prime alsike steady at \$11.25 per bu. At Toledo January is quoted at \$9.42 1/2 and prime alsike at \$11.10.

Timothy.—Steady, with prime spot nominally quoted at \$2.50 per bu.

Alfalfa.—Unchanged at \$7.20 per bu.

FLOUR AND FEEDS.

Flour.—Jobbing lots in 1/2 paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent, \$5.30; second, \$4.80; straight, \$4.50; spring patent, \$5.15; rye flour, \$4.60 per bbl.

Feed.—In 100-lb. sacks, jobbing lots: Bran, \$22; coarse middlings, \$27; fine middlings, \$27; cracked corn, \$31; coarse corn meal \$30; corn and oat chop \$25.50 per ton.

Hay.—All grades are steady. Prices: Carlots on the track at Detroit are: No. 1 timothy, \$15@16; standard \$14@15; No. 3, \$12@14; light mixed \$14@14.50; No. 1 mixed \$13@13.50.

New York.—Hay market quiet. No. 1 timothy \$20.50@21; No. 2 \$16@17; clover \$17@18 per ton for large bales.

Chicago.—Choice timothy is quoted at \$17.50@18 per ton; No. 1 \$16@17; No. 2 \$13@14.

Straw.—All grades rule steady. Rye \$8@9; oat straw \$7.50@8; wheat straw \$7@8 per ton.

Chicago.—Quotable as follows: Rye \$6.50@7; oat \$6.50@7; wheat \$6.50@7.

New York.—Rye straw, \$17@18 per ton; oat straw, \$12.

DAIRY AND POULTRY PRODUCTS.

Butter.—The local demand not as good as last week but prices remain the same. Quotations: Extra creamery 35c per lb; firsts 32c; dairy 21c; packing stock 18c per lb.

Chicago.—The market was rather unsettled, with a wide range in prices. In general prices have dropped and trade has been dull. Quotations are: Extra creamery 34@35c; extra firsts 32@33c; firsts 26@29c; seconds 21@22c; ladies 20@21c; packing stock 12@18c per lb, according to quality.

Elgin.—Market firm at 35c per lb., which is 1/2c lower than last week.

New York.—Market remains firm with little change in prices. The lower grades have advanced some. Quotations are: Creamery extras 36 1/2@37 1/2c; firsts 29@35c; seconds 24 1/2@28c; packing stock, 19 1/2c.

Eggs.—On account of liberal receipts prices have dropped 1c on the local market. Current receipts of fresh stock is quotable at 31 1/2c per dozen.

Chicago.—Trading was not as active as last week and prices have declined about 1/2c. The fresh stock received is irregular and has to be rehandled to satisfy those who want fine stock. Quotations: Miscellaneous lots, cases included, 28@31 1/2c, according to quality; ordinary firsts 29 1/2@30c; firsts 31 1/2@32c; refrigerator stock is steady at 29@29 1/2c for April firsts.

New York.—Market irregular with prices slightly lower. Quotations: Fresh gathered extras 37@38c; extra firsts 36@36 1/2c; firsts 35@35 1/2c per dozen.

Poultry.—Local market holds firm with no change in prices. Receipts are easily disposed of. Quotations: Live—Springs 15@15 1/2c; hens 14 1/2@15c; turkeys 20@21c; geese 14@15c; ducks 16@17c.

Chicago.—Prices for poultry are lower than last week, turkeys dropping 2c. There is a fair demand for fowls and spring chickens but turkeys are in light demand. Quotations on live are: Turkeys, good weights, 16c; others 12c; fowls, choice 14c; spring chickens 13 1/2c; geese 12@13c, according to quality; ducks choice 15c.

Cheese.—The market continues firm with no changes in prices. Michigan flats are quoted at 15@16c; New York flats 17@17 1/2c; brick cream 16@16 1/2c; Limburger 14@15c.

Veal.—Market is firm with some increase in prices. Quotations: Fancy 15@16c; common 12@14c.

At Chicago the trade was firm with light receipts and little demand. Good to choice, 90@110 lbs., quoted at 14 1/2@15c; 60@90-lb weights 12 1/2@14c.

FRUITS AND VEGETABLES.

Apples.—Market active with prices increasing. Quotations: No. 1, \$4.50@5; No. 2, \$2.25@3.50 per bbl. At Chicago there is an easy feeling with no change in prices. Offerings are cooler apples. No receipts to speak of. Value for country picked range from \$3.50@5.50 per bbl. No. 1 Jonathan's are selling best; Spies are \$3.75@4.25; Baldwins are \$4@4.25.

Potatoes.—The local market is steady with prices unchanged. Demand is good. Quotations: In bulk 65@70c per bu; in sacks 70@75c per bu. for carlots. At Chicago prices are still advancing, being about 3c above last week. The general quality of receipts are good. Michigan stock is held at 68@73c.

Cabbage.—Steady at prices about 25c higher than last week. Good quality is quoted at \$2.50@2.75 per bbl. The market is firm at Chicago. Demand is steady and supply not large. Prices are unchanged. Quotations: Holland \$1.85 per bbl; \$2.50 for red.

Onions.—On the local market prices are steady. Quoted at \$1.15 per bu. for yellow and \$1.40 per crate for Spanish. At Chicago domestic stock is slightly lower. Sacks 65@70 lbs., Michigan grown, sell at \$1.25.

PRICES ON DETROIT EASTERN MARKET.

There was a good market Tuesday morning. Offerings were in good supply and buyers' demands kept values on a satisfactory basis. The majority of the apples closed at prices ranging from \$1.40@1.75. Cabbage is firm at 75@90c; potatoes higher at 85c; carrots 65c; onions \$1.25@1.40; eggs 45c. Poultry was in fair supply and sold at good values; chickens, alive 16c. Celery ruled all the way from 15@40c per bunch, depending on quality. Loose hay is slow at \$16@18 per ton.

GRAND RAPIDS.

The egg market is uncertain, depending on the weather, prices the first of the week ranging from 28@30c. Dairy butter is quoted at 25@26c. The local poultry market is firm, live chickens selling at 12@13c; ducks 13c; geese 12c; turkeys 16@18c. Dressed poultry is worth 3c more. Dressed hogs are a cent higher this week, being quoted at 10@10 1/2c. No change is noted in the local potato market, the prices ranging from 60@65c. The apple market is advancing, jobbers reporting sales of Spies at \$2. Grain prices are as follows: Wheat 93c; oats 39c; corn 69c; rye 58c; buckwheat 65c; beans \$1.60@1.70.

THE LIVE STOCK MARKETS.

Buffalo.

January 5, 1914.

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

Cattle.—Receipts 130 cars; heavy grades 10c higher; good butcher grades 15@25c higher; prime 1350 to 1450-lb. steers, \$8.75@9; best 1200 to 1300-lb. steers \$8.50@8.75; best 1100 to 1200-lb. steers, \$8.25@8.50; coarse and plain weighty steers, \$7.50@8; fancy yearlings, baby beef, \$8.50@8.75; medium to good, \$7.50@7.75; choice handy steers, 1000 to 1100 lbs., \$8@8.25; fair to good, \$7.50@7.75; choice fat cows, \$7@7.25; best cows, \$6.50@6.75; butcher cows, \$5.25@5.50; cutters, \$4.25@4.75; trimmers, \$3.50@3.75; best heifers, \$7.50@8;

medium butcher heifers, \$6.50@6.75; light butcher heifers, \$6.25@6.50; stock heifers, \$5.25@5.50; best feeding steers, \$7@7.25; fair to good, \$6.25@6.50; fancy stock steers, \$6.50; best do, \$5.75@6.25; common light, \$5.25@5.50; extra fat butcher bulls, \$7@7.25; bologna bulls, \$6@6.50; stock bulls, common to good, \$5@6; milkers and springers, \$50@100.

Hogs.—Receipts, 80 cars; market active and higher; heavy and mixed, \$8.65; yorkers and pigs, \$8.65@8.75.

Sheep and lambs.—Receipts, 60 cars; market strong; top lambs, \$8.50@8.65; yearlings, \$6.50@7.50; wethers, \$6@6.25; ewes, \$5.25@5.75. Calves strong; tops, \$13.50; fair to good, \$10.50@11.50; grass-ers \$4.50@5.75.

Chicago.

January 5, 1914.

Receipts today: Cattle, Hogs, Sheep, 23,000 43,000 33,000
Same day last year, 25,591 46,521 28,518
Receipts last week, 42,513 160,836 90,961
Same week last year, 49,876 163,595 106,405

Hogs are in lively general demand today at further advances of 5@10c, sales ranging at \$7.90@8.35. To the greatly increased eastern shipping demand the late boom in prices is largely due, shipments from Chicago last week aggregating 52,089 hogs, comparing with 30,376 a week earlier and 35,221 a year ago. Hogs received last week averaged 209 lbs., comparing with 227 lbs. one year ago, 212 lbs. two years ago and 223 lbs. three years ago. Cattle are selling today at steady prices, and sheep and lamb prices are well maintained, top for fat wethers being \$6.10.

Cattle were in such meager supply during Christmas week that the demand during the following week was undoubtedly greater than it would have been otherwise, and this kept the market from considerable breaks in prices. The receipts were increased over those of the preceding week, but they were small as compared with ordinary weeks, the New Year's holiday being observed in the stock yards by a total suspension of all business for the first time in many years. With only four days left for the cattle trade, Saturday cutting no figure, for receipts on that day are never worth mentioning, killers did some hustling on the two big days, with the bulk of the beef steers crossing the scales at \$7.75@8.35. The cheaper class of light-weight, warmed-up steers went at \$6.50@7.65, with fair and medium lots of steers purchased at \$7.70@8.30, good heavy steers at \$8.35@8.80 and choice to extra lots of heavy cattle at \$8.85@9.35. Some steers that weighed as much as 1307 lbs. went at \$7.90, but they were coarse. Good to fancy yearlings were quoted at \$8.60@9.50, with none offered prime enough to go over \$9.15. Butcher lots of cows and heifers had a good outlet at \$4.70@8, with fancy yearling heifers scarce and quotable up to \$8.50, while canners sold at \$3.20@4.10, cutters at \$4.15@4.65 and bulls at \$4.75@7.75. A limited trade was seen in stockers and feeders, the offerings being cut down and prices on the up-grade. These cattle were taken at \$4.90@7.50, with good light-weights usually given the preference by buyers, these selling not very much below top figures. There was a good calf trade, with the better class of light vealers taken at \$11@11.65, while the heavier calves brought \$5@8 or more. Milch cows were in extremely light demand at \$50@80 per head.

Hogs were in excellent local and shipping demand last week, as the meager supplies furnished the preceding week made packers eager to buy, in order to produce fresh pork, as well as for manufacturing cured meats and lard. The receipts were larger, but they looked very small when compared with ordinary weeks, and prices had some good advances. The character of the buying was the same as heretofore, with the small proportion of matured heavy hogs responsible for the quick sales of such offerings, these going at the usual good premium over light hogs of the best class. Corn is selling at such unusually high prices that many stock feeders prefer to let their hogs go to market so as to avoid feed bills, thinking it will pay better to sell the corn than to feed it. Others take a different view, believing that the widespread premature marketing of young hogs cannot fail to create a corresponding scarcity of matured hogs later on and decidedly higher prices. The spread in hog prices is much greater than a year ago, though much narrower than last summer. The week closed with hogs selling at \$7.85@8.32 1/2, the highest prices in many weeks, comparing with \$7.50@8 a week earlier, pigs bringing \$6.85@8 and throwout packing sows \$7.60@7.85. Stags brought \$8.20@8.60; boars \$2.50@4 and 135 to 155-lb. pigs \$7.80@8.

Sheep and lambs were marketed much more sparingly than in most weeks, and there was a good outlet for desirable offerings most of the time, prices for prime lambs advancing to the highest figures seen since July. Feeders were unusually scarce and very firm, and fat yearlings and sheep sold extremely well at advanced values. Packers bought freely, and even heavy lambs found a fairly good outlet, but bulky lots were turned down by most buyers. Lambs brought \$5.75@8.40; yearlings \$6@7; wethers \$4.40@6.15; ewes \$3.50@5.50; bucks \$3@4.25 and feeding lambs \$6.50@7. Fat lambs advanced as much as 25c.

HOLSTEIN BREEDERS MEET.

The annual meeting of the Michigan State Holstein-Friesian Breeders' Association will be held at the Michigan Agricultural College, January 13-14, 1914. On the evening of the 13th a banquet will be held at the Masonic Temple in Lansing and a splendid program is arranged to be given at the College on the 14th. All persons interested in the Holstein cow are invited.

CROP AND MARKET NOTES.

(Continued from page 41).

tools, money paid out for taxes, insurance, repairing, etc., besides taking into consideration the deterioration or wear and tear on everything. Land must either produce more or else come down in price, before many men with business judgment will buy. A few beans and potatoes are being sold, also some hay. Following are prices offered by dealers, not the retail: Butter, dairy 32c; creamery 35c; pork, dressed 10c; live 7 1/2c; eggs 34c; spring chickens, 14c; fowls 12c; lambs, dressed 12c; milk 8c qt; wheat 92c; oats 45c; potatoes 55c; beans, according to quality, \$1.85@2.75 per bu; cabbage \$20 ton; hay, loose \$11@13 per ton.

Olio.

Sandusky Co., Dec. 23.—We are having fine weather, corn about all husked and fodder in barn or stacks. Some plowing being done for oats. Some stock on pasture yet. Wheat and meadows are looking extra good. Fair to good crops with fair prices have made 1913 a successful season, excepting some cholera losses. Farm products are going to market with a rush at the following prices: Hay \$10@12; wheat 95c; oats 38c; corn 78c per cwt; hogs \$7.40; lambs \$6.90; chickens 10@11c; butter 30c; eggs 30c; turkeys 16c.

Coshocton Co., Jan. 1.—Fine weather for this time of year. Some very foggy days. Three inches of snow at present, the first since the big snow of November. Corn practically all husked. Light crop on hills and average on bottoms; 120 bu. of corn on one acre the heaviest this year; 15 per cent larger acreage of wheat sown this year than last; crop looks good at present. Good bit of stock on pasture yet. An average number of cattle, hogs and sheep being fed. A great scarcity of eggs in county, hens not laying so well. The roads have been above the average for winter roads. Farmers hauling manure, fodder and coal. Not much feed being sold. Loose hay \$12; baled \$13; baled straw \$6; wheat 95c; corn 60c; rye 75c; oats 40c; butter 25c; eggs 32c; lard 11c; chickens 10c; ducks 11c; turkeys 18c; geese 11c; heavy hogs \$7.35@7.75; dressed hogs 10c; veals 8c. Lecture courses and farmers institutes in full blast.

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depend largely on how the crop is planted. Every skipped hill is a loss in time, fertilizer and soil. Every double wastes valuable seed. It means \$5 to \$50 per acre extra profit if all hills are planted, one piece in each. That is why

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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.

Thursday's Market.

January 1, 1914.

Cattle.

Receipts, 1366. Market steady at Wednesday and last week's prices.

We quote: Best steers and heifers, \$8@8.25; steers and heifers, 1000 to 1200, \$7.25@7.75; do 800 to 1000, \$6.50@7; do that are fat, 500 to 700, \$6@6.50; choice fat cows, \$6@6.25; good do, \$5.25@5.75; common cows, \$4.50@5; canners, \$3@4.25; choice heavy bulls, \$6.50@7; fair to good bolognas, bulls, \$6@6.25; stock bulls, \$5.25@5.75; choice feeding steers, 800 to 1000, \$6.75@7.25; fair do, 800 to 1000, \$6@6.50; choice stockers, 500 to 700, \$6@6.50; fair do, \$500 to 700, \$5.50@6; stock heifers, \$5@5.75; milkers, large, young, medium age, \$7@90; common milkers, \$4@55.

Bishop, B. & H. sold Sullivan P. Co. 3 cows av 1033 at \$5. 3 heifers av 790 at \$6. 3 steers av 823 at \$7. 2 do av 1275 at \$8. 4 do av 887 at \$7.30. 1 cow wgh 1030 at \$5.25. 4 do av 990 at \$5.50; to Rattkowsky 5 do av 982 at \$5. 2 do av 1150 at \$6; to Newton B. Co. 6 steers av 1000 at \$7.50. 6 cows av 1050 at \$5.90. 2 do av 990 at \$4. 18 butchers av 880 at \$7.40. 5 do av 766 at \$6.75. 5 do av 995 at \$5.75. 2 heifers av 760 at \$4.75. 1 cow wgh 750 at \$4; to Kull 10 steers av 1026 at \$7.85. 6 cows av 986 at \$4.25. 8 butchers av 996 at \$6.25; to Sullivan P. Co. 6 cows av 983 at \$5.50. 6 do av 853 at \$4.25. 5 cows and bulls av 1012 at \$6.10. 3 cows av 903 at \$4.25. 5 steers av 994 at \$7.50. 7 cows av 1100 at \$5.75. 2 do av 815 at \$7. 8 do av 780 at \$6. 1 bull wgh 1180 at \$6.25. 4 canners av 812 at \$3.75. 8 butchers av 1018 at \$6.25. 4 do av 1005 at \$7.60. 7 do av 936 at \$7.50. 4 cows av 992 at \$5. 3 steers av 1073 at \$7.50. 9 butchers av 1118 at \$6.25; to Mich. B. Co. 7 cows av 911 at \$5.75. 2 heifers av 650 at \$4; to Kull 1 bull wgh 1700 at \$7.

Roe Com. Co. sold Sullivan P. Co. 1 cow wgh 840 at \$3.50. 1 do wgh 830 at \$4. 8 do av 1040 at \$5.25; to Applebaum 12 butchers av 360 at \$6. 1 cow wgh 1030 at \$5.25; to Kamman B. Co. 10 butchers av 751 at \$6.65. 1 heifer wgh 640 at \$6.50; to Kull 2 steers av 860 at \$6.40; to Rattkowsky 2 cows av 990 at \$5.65; to Goose 8 cows av 1056 at \$5.35; to Mich. B. Co. 3 heifers av 783 at \$6.25. 4 cows av 947 at \$5.35. 1 do wgh 1080 at \$6.50. 5 butchers av 810 at \$6.90. 1 bull wgh 1780 at \$6.50; to Kamman B. Co. 8 oxen av 1325 at \$6.85; to Bresnahan 2 canners av 835 at \$4.50. 1 do wgh 720 at \$3.75.

Haley & M. sold Hirschleman 3 heifers av 883 at \$6.60. 3 cows av 943 at \$5.50; to Applebaum 7 do av 971 at \$5.15; to Mich. B. Co. 3 steers av 1057 at \$7.25. 3 do av 843 at \$7.65. 13 cows av 1040 at \$5.75; to Austin 1 bull wgh 650 at \$5.75; to Goose 2 oxen av 1295 at \$6.25. 2 cows av 955 at \$4.65. 1 do wgh 920 at \$5.25. 2 bulls av 760 at \$5.75; to Breitenbeck 1 cow wgh 1030 at \$4.25. 5 do av 900 at \$4. 1 bull wgh 1020 at \$6; to Kull 12 steers av 908 at \$7. 5 do av 606 at \$6.60; to Newton B. Co. 5 do av 1096 at \$7.85. 1 cow wgh 1130 at \$5. 2 bulls av 1375 at \$6.25. 2 cows av 1000 at \$5.40. 5 butchers av 716 at \$6.85. 2 steers av 980 at \$7.40. 4 do av 715 at \$6.50; to Sullivan P. Co. 7 butchers av 970 at \$6.65; to Remick 2 cows av 1060 at \$5.10. 4 do av 1162 at \$5.80; to Lathrop 6 stockers av 611 at \$6.15. 6 feeders av 853 at \$7.

Spicer & R. sold Bresnahan 1 canner wgh 690 at \$3; to Mason B. Co. 5 butchers av 740 at \$6.25. 2 do av 755 at \$5.50. 4 steers av 845 at \$7. 1 cow wgh 910 at \$5.50. 1 do wgh 1080 at \$5. 6 do av 1150 at \$5.75. 14 butchers av 904 at \$6.90. 1 bull wgh 1740 at \$6.90. 1 steer wgh 1000 at \$7.50. 1 cow wgh 900 at \$5. 6 butchers av 711 at \$6.25. 2 do av 655 at \$6.50. 2 cows av 900 at \$4.50. 1 do wgh 880 at \$5; to Sullivan P. Co. 2 do av 1030 at \$4.25. 7 do av 1038 at \$5.75. 2 butchers av 1310 at \$6.25. 1 heifer wgh 650 at \$6.25; to Breitenbeck 29 butchers av 890 at \$6.40. 26 steers av 903 at \$7.35; to Kamman B. Co. 27 do av 981 at \$6.50; to Newton B. Co. 29 butchers av 864 at \$6.25; to Miller 10 stockers av 590 at \$6; to Rattkowsky 5 cows av 872 at \$5; to Bresnahan 8 do av 750 at \$3.75; to Newton B. Co. 4 butchers av 830 at \$6.75. 5 do av 838 at \$6. 4 cows av 950 at \$5.25. 6 heifers av 741 at \$6.75. 28 butchers av 726 at \$6.50. 3 do av 707 at \$6; to Hirschleman 21 do av 800 at \$6.40; to Fry 10 do av 790 at \$6.40; to Case 8 stockers av 526 at \$5.50.

Veal Calves.

Receipts, 582. Market steady. Best \$11.50@12; others, \$8@10.50.

Roe Com. Co. sold Mich. B. Co. 3 av 230 at \$10. 1 wgh 140 at \$11. 1 wgh 140 at \$11.50. 1 wgh 160 at \$8. 1 wgh 140 at \$11.50.

Bennett & S. sold Sullivan P. Co. 7 av 140 at \$11.60.

Sharp sold Mich. B. Co. 15 av 140 at \$10.75.

Sandall sold same 1 wgh 120 at \$8. 3 av 140 at \$10.50. 2 av 135 at \$11. 1 wgh 310 at \$8.

Sheep and Lambs.

Receipts, 7118. Market steady. Best lambs, \$8; fair to good do, \$7.60@7.85; light to common do, \$6.75@7.25; yearlings, \$6.25@6.50; fair to good sheep, \$4.50@4.75; culls and common, \$3@3.75.

Haley & M. sold Costello 39 lambs av 70 at \$7; to Levy 31 sheep av 125 at \$4.50; to Nagle P. Co. 289 lambs av 75 at \$8; to Parker, W. & Co. 163 do av 70 at \$7.90; to Nagle P. Co. 42 sheep av 95 at \$4.25. 30 lambs av 85 at \$7.50. 9 do av 105 at \$7.75. 30 do av 65 at \$7.50. 24 sheep av 100 at \$4.50.

Bennett & S. sold Sullivan P. Co. 28 lambs av 81 at \$8.

Bigelow sold same 49 lambs av 70 at \$7.80.

Roe Com. Co. sold Nagle P. Co. 76 lambs av 83 at \$8; to Hayes 34 do av 55 at \$7; to Newton B. Co. 38 do av 70 at \$7; to Sullivan P. Co. 15 sheep av 110 at \$4.25; to Barlage 43 sheep av 95 at \$4. 22 lambs av 73 at \$7.50.

Sharp sold Mich. B. Co. 90 lambs av 105 at \$7.65. 21 sheep av 90 at \$3.50. 78 do av 73 at \$4.60.

Hogs.

Receipts, 8125. Market steady at Wednesday's prices; all grades \$8.

Bishop, B. & H. sold Hammond, S. & Co., 4000 av 190 at \$8.

Roe Com. Co. sold Sullivan P. Co. 550 av 200 at \$8.

Haley & M. sold Parker, W. & Co. 310 av 195 at \$8.

Spicer & R. sold same 280 av 200 at \$8. \$7.80.

Friday's Market.

January 2, 1914.

Cattle.

Receipts this week, 1523; last week, 562; market steady.

We quote: Best steers and heifers, \$8; steers and heifers, 1000 to 1200, \$7.50@7.75; do 800 to 1000, \$6.75@7.25; do that are fat, 600 to 800, \$6.25@7; do 500 to 700, \$6@6.50; choice fat cows, \$6@6.50; good do, \$5.50@5.75; common cows, \$4.50@5; canners, \$3@4.25; choice heavy bulls, \$6.50@7; fair to good bolognas, bulls, \$6@6.25; stock bulls, \$5@5.50; choice feeding steers 800 to 1000, \$6.75@7.25; fair do, 800 to 1000, \$6.25@6.75; choice stockers, 500 to 700, \$6.25@6.75; fair stockers, 500 to 700, \$5.75@6.25; stock heifers, \$5@6; milkers, large, young, medium age, \$7@90; common milkers, \$45@60.

Veal Calves.

Receipts this week, 715; last week, 250; market steady. Best, \$11@12; others, \$7@10.50.

Sheep and Lambs.

Receipts this week, 8406; last week, 4181; market steady at Thursday's close. Best lambs, \$7.75@7.85; fair to good do, \$7.25@7.50; light to common do, \$6.50@7; yearlings, \$6@6.50; fair to good sheep, \$4.40@4.50; culls and common, \$3@3.50.

Hogs.

Receipts this week, 9993; last week, 4065; market 10c higher; all grades \$8.10.

Something New!

This offer is made by the Lake County Land Owners' Association in order to secure new settlers and to develop the district.

We Will Take Your First Crop

In Full Payment for the Land

Regardless of the size or value of the crop, and without any cash payment to us on your part whatsoever.

We have very little money to spend for advertising, but we know what our land will produce, and we will give a new settler 10 acres and take his first crop of watermelons in full payment for same.

This crop can be produced at small expense and is marketed within a few months. We take only the first crop. You can raise other crops for yourself the same year.

Our lands lie on either side of three hard roads and two railroads, with 12 stations, including five towns and one city; they are high, rolling, well drained, with beautiful clear water lakes and beautiful homes throughout district; elevation over 100 feet; ideal climate and pure drinking water. No better grapefruit or orange land on the continent. Over one million boxes of fruit shipped from this part of state last year. Modern packing houses.

Our growers make big money out of tomatoes, syrup cane, winter vegetables, staple crops and watermelons, which are shipped in solid train loads; 82 spot cash buyers here one day last season.

Come now and pick out your land while prices are low. Our land is selling at \$35 an acre and up on easy terms. You can have it planted on shares or set out to grapefruit, which bears in 4 years. A 10-acre grapefruit grove means an income for life—old age insurance. For particulars, address Lake County Land Owners' Association Fruitland Park, Florida Dept. V2 Owners, not agents. R. R. fare refunded to buyers.

DRESSED HOGS

These are our specialties just now. Our 25 years' experience has taught us how to sell them for you to best advantage. Our reputation for honest dealing and quick returns is assured by our record.

DRESSED VEAL

POULTRY

RABBITS

WRITE TODAY.

Chas. W. Rudd & Son, Detroit, Mich.

We Want HAY & STRAW

We get the top price on consignments, make liberal advancements and prompt remittances.

Daniel McCaffrey's Sons Co.

PITTSBURG, PA.

Reference, Washington Trust Company, or any bank in city

Griggs, Fuller & Co., Wholesale Commission House, Detroit. Want your apples, potatoes, poultry and rabbits. Quick returns.



Mitchell Little Six
\$1895.00

Recognizing the fact that the modern farmer is as much of a business man as the merchant of the big commercial center, we call the farmer's attention to the established truth that the Mitchell car is an investment and in no sense a speculation. Not only is the car manufactured to last but its maintenance is economical—a fact that any man of business sense will thoroughly appreciate.

The principle of maximum power on minimum fuel is exemplified to a high degree in the Mitchell Models for 1914 and the strength of axles, frame, springs and other important features is calculated to resist successfully and repeatedly the severe strains and jolts and twists of rough country roads.

Such facts must be considered carefully to preserve an automobile as a daily utility and prevent it from becoming a costly luxury. Your Mitchell of today will be looking well and serving you faithfully several years from now and thus annually the cost of your original investment is decreased until it finally disappears.

The Mitchell Models for 1914:

The Mitchell Little Six—fifty horse-power—132-inch wheel base—36x4½ inch tires—two or five passenger capacity	\$1,895
The Mitchell Big Six—sixty horse-power—144-inch wheel base—37x5-inch tires—seven passenger capacity	\$2,350
The Mitchell Four—forty horse-power—four cylinders—120-inch wheel base—36x4½ inch tires—two or five passenger capacity	\$1,595

Equipment of all the Mitchell Models Included in the List Prices Here Given

Electric self-starter and generator—electric lights—electric horn—electric magnetic exploring lamp—speedometer—mohair top and dust cover—jiffy quick-action side curtains—quick-action rain vision wind-shield—demountable rims with one extra—tungsten valves—double extra tire carriers—Bair bow holders—license plate bracket—pump, jack and complete set of tools. Prices F. O. B. Racine.

Mitchell-Lewis Motor Co.

Racine, Wis., U.S.A.

Eighty Years of Faithful Service to the American Public

FARMS AND FARM LANDS FOR SALE OR EXCHANGE

FARMS, GOOD, CHEAP, PROFITABLE. UNUSUAL OPPORTUNITIES NOW. State Board of Agriculture, Dover, Delaware.

WANTED—To hear from owner who has good farm for sale. Send description and price. Northwestern Business Agency, Minneapolis, Minn.

For Sale—Farm of 140 acres, under good state of cultivation, 16 acres timber, soil sandy loam, good buildings, 1 mile from Lawton, Mich. Van Buren Co. Price \$7000. Terms. Address, L.C. Held, Route 1, Paw Paw, Mich.

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Near Saginaw and Bay City, in Gladwin and Midland Counties. Low prices. Easy terms. Clear title. Write for maps and particulars. STAFFELD BROTHERS, 15 Merrill Building, Saginaw, (W. S.), Michigan.

Virginia Farms and Homes.

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BURLINGTON COUNTY, N.J.

FARM OF 348 ACRES—Suitable for dairy, fruit and potatoes. Farm of 170 acres; one of 80 acres; another 175 acres, etc., and others. Desirable country residence near Crosswicks, N. Y.; large, well-arranged house, suitable buildings, 20 acres of land. Prices and particulars on application. JOHN H. HUTCHINSON, 1002 Drexel Bldg., Philadelphia, or Brodowntown, N. J.

NEW YORK GROWS EVERYTHING

Suited to temperate zone. Grows more apples than all states west of Missouri River combined. New York surpasses every Western state in value of products per acre, but average value of New York farms only \$53.78. Reliable description, owners, prices, views, maps, found in free book of the Farm Brokers' Association, Sec. No. 8, Oneida, N. Y.

Elderly Man, Retiring, Must Sell

His Money maker. Stock, tools, hay and grain. 221 acres, on state macadam road; 175 acres cleared, 46 acres timber worth \$1,500. Two-story 12-room house, painted and papered. Barns 120 ft. front with ells; 40 cow stalls. 6 horse stalls; silo. Tenement house. Apples, pears. Milk shipping station 1½ mile. To close it out quick will include 11 cows, 8 yearlings, 3 good horses, 8 wagons and buggies, mower, rake, reaper, sulky plow, harrow, harness, cultivators, 3 saws, axes and all small tools kept on first-class farm. Only \$7,500; part cash, balance mortgage at 5%.

Hall's Farm Agency, Owego, Tioga Co., N. Y.

CALIFORNIA.

Not fiction but proven facts. Twenty acres at FAIRMead, California, will support family, forty means fortune. I know man who bought twenty acres four years ago, paying \$525 down. Crops paid balance. Last year produced \$2,000 and he could sell for \$10,000. No snow—no ice—no floods—no cyclones—cattle, hogs and chickens on green feed all the year. I will take your Michigan farm in exchange. Special excursion in January at \$10 less than regular fare.

F. P. TOMS, 21 McGraw Bldg., Detroit, Mich

Successful Farming Aids Successful Railroading

We assist settlers along our line to locate upon lands that will grow **SUCCESSFUL CROPS**, so that they will help make our Railway successful. Besides the lands along the main line on the Coast, we are opening up a rich territory North of Lake Oksechochee, where you have the choice of Prairie, Hamont, Muck or Pine Lands. Business opportunities, Mercantile, Professional and Manufacturing. Illustrated booklets and "Facts About Florida," free.

FLORIDA EAST COAST RAILWAY (7)
J. E. INGRAM, V. Pres., or LOUIS LARSON, Northwestern Agent, Room 119, City Bldg., St. Augustine, Fla. Adams Street, Chicago, Ill.

1913 RECORD

Magnificent Crops in all Western Canada

All parts of the Provinces of Manitoba, Saskatchewan and Alberta, have produced wonderful yields of Wheat, Oats, Barley and Flax. Wheat graded from Contract to No. 1 Hard, weighed heavy and yielded from 20 to 45 bushels per acre; 28 bushels was about the total average. Mixed Farming may be considered fully as profitable an industry as grain raising. The excellent grasses full of nutrition, are the only food required either for beef or dairy purposes. In 1912, at Chicago, Western Canada carried off the Championship for beef steers. Good schools, markets, convenient climate excellent. For the homesteader, the man who wishes to farm extensively, or the investor, Canada offers the biggest opportunity of any place on the continent.

Apply for descriptive literature and reduced railway rates to Superintendent of Immigration, Ottawa, Canada, or to Canadian Government Agent.

M. V. MacInnes, 176 Jefferson Avenue, Detroit, Mich.

160 ACRE FARMS IN WESTERN CANADA FREE

FARMERS—We are paying 5 cents above the Official Detroit Market for new-laid eggs shipped direct to us by express. Write us for information. It will pay you. American Butter & Cheese Co., 31-33 Griswold St., Detroit, Mich.

In SILOS this will be a Redwood year

To Build Permanent, Build of Redwood

It positively will not decay. Redwood will not shrink or swell. Furthermore, it is fire-resisting. Extremes of heat and cold, moisture and dryness, will not effect this wonderful wood.

Everywhere users of Redwood testify to the absolute permanence of this enduring wood. Redwood railroad ties, down forty years, show no effect from rot or decay. Into every Redwood tree Mother Nature has put a marvelous preservative that keeps Redwood sound and permanent. Saginaw Redwood Silos, under all kinds of weather conditions, give the same unequaled service.

Hosts of dairymen and stockmen will tell you that their Saginaw Redwood Silos are tight as a drum, and they have not been touched with a wrench. A big saving in time and labor. No need to tighten or loosen the hoops.

The Saginaw Silo is Steel-Built

The Saginaw Silo has a frame work of structural steel like that of a giant skyscraper. Five big dominant features make the Saginaw wind-proof. Empty or filled, the Saginaw stands like a rock.

Saginaw All-Steel Door Frame—a keystone of wonderful strength to which the Silo is built.

Saginaw Angle-Steel Rib—encircling the Saginaw overcomes vibration in the wall under severe wind stress and absolutely prevents any possibility of cave in.

Saginaw Spline-Dowels unite all the staves into a rigid, immovable wall, and each Dowel

locks and interlocks the staves in four places.

Saginaw Inner Anchor uniformly distributes the anchoring pull on all the staves. It securely holds them in position.

Saginaw Base Anchor completes perfectly the wonderful steel framework of the Saginaw. It holds the Saginaw immovable to its foundations with the grip of the roots of giant oaks.

Redwood endures forever. The steel framework of the Saginaw makes the Saginaw Silo indestructible. So in the Saginaw Redwood Silo, you have a wonderful, practical combination, lasting strength and the perfect silage keeping qualities of wood.

Or a Siloiled Yellow Pine Silo. Siloil is a wood preserver that penetrates the Yellow Pine Staves making them impervious to rot or decay. Siloil eliminates a greater part of the shrinking or swelling of the staves. It gives to Yellow Pine many of the permanent qualities of Redwood.

Build a Saginaw Silo. Year in and year out it will be a source of profit, pride and satisfaction to you, a solid, permanent structure on your farm.

In buying a Saginaw Silo you have the choice of Redwood, Siloiled Yellow Pine and Yellow Pine the best woods for Silo building. Write for Silo book. See our agent in your locality. Know about the Saginaw Silo before you buy.

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(FORMERLY FARMERS HANDY WAGON CO.)

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Minneapolis, Minn. Ft. Worth, Texas

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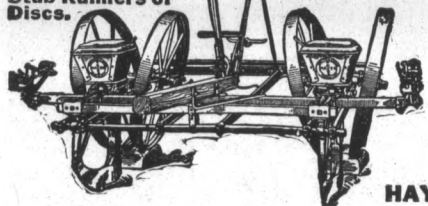
You can have the benefits of better planting and vastly better crops with the **Hayes Four-Wheel**. Every kernel planted *exactly the same depth*—every hill in *perfect check*—an even stand—*surer germination and quicker growth*—no missing hills, *no bare spots* in your fields; such conditions will mean *more corn* for you, *better corn*, *more money*.

This planter is *guaranteed*. It must be all we claim and all you expect. 170,000 users verify that **Hayes Four-Wheels** regulate depth of planting to the *fraction of an inch*. Corn all comes up at the same time, allows earlier cultivation, an earlier harvest, a *better quality and bigger quantity*.

Hayes Four-Wheels guarantee *surer germination and quicker growth*. Wheels pack the dirt around the corn.

Fertilizer or Cow Pea Attachments. Stub Runners or Discs.

25 Years the Leader



Hayes Four Wheel Corn Planter

to hold the moisture and leave a *ridge of loose soil* on top. Ridge over corn prevents washouts in hilly fields and gives greater surface for sun's heat.

Covers where all ordinary open wheels fail—even in wet and sticky ground. Guaranteed not to clog. Short coupled, light draft and turns in shortest space. Checks with absolute accuracy, regardless of team's speed. Cross rows straighter than the way you drive.

The **Hayes Drop** never misses a hill. Simple, reliable and most efficient. Fewer parts, less breakage, and delays. Has no clutch to miss and give trouble. *Never cracks or grinds the seed. Will drop accurately any size or shape kernel. No bare spots in Hayes planted fields. No replanting necessary. Increased yields soon pay for it.*

Thousands in use for years with practically no repair expense and every one giving time-saving, money-making service. No complicated parts to get out of fix. Strong construction *practically exempt from breakage*. No expensive and aggravating delays in the busy planting season. Easy and simple to operate and can be trusted to unskilled help.

1,500 dealers. Ask your dealer or let us prove how this planter prevents corn field waste and increases corn yields. Don't make a mistake. Buy the planter that *guarantees results*.

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Lansing, Mich.



Practical Science.

THE PROBLEM OF SUPPLYING MILK TO THE CITY.—II.

BY FLOYD W. ROBISON.

Where Does the Milk Go?

There are 100,000 families in the city of Detroit that use milk in one or another way daily. There are in the city of New York probably 1,000,000 families that rely in some way upon the milk supply during the day. Until we stop to look at figures such as these we are not conscious of the exceedingly big problem the supplying of milk to a modern city entails.

Milk Must be Delivered Fresh.

Milk cannot be handled as any other commodity is handled. Almost every article of produce or meat is of such a character that it can be purchased in comparatively large quantities, held in storage and placed upon the market at convenient intervals. Milk is not such a product. It must come daily to the consumer and not only must come daily to the consumer but it must be shipped daily from the producer. The milk business is a regular every day business, not so much because it is in daily demand, because other commodities or other article of produce are in daily demand on the tables of the American families, but because of its perishable nature it cannot be held in storage and must be transported with as great facility as possible from the producer to the consumer, in order that it may arrive at its destination in a condition fit for human consumption.

On the long line of travel from the producer to the city home, the commercial production of milk begins very early in the morning with the milking of the cows, and the transportation of the milk by carrier from the farm to the railway station. Here it is gathered by the milk cars or milk train and hurried away to the city to be met at the depot by the agent of the distributor. It is then taken to the central distributing plant where it undergoes the various processes which have been found desirable before bottling it for city distribution. The processes involved at the distributing plant are varied. After mixing and possibly clarifying to remove sediment it then proceeds in many instances to the pasteurizer where it is subjected to heating with the object of destroying a goodly number of the bacteria which are present. From the pasteurizer, if it has been pasteurized, it is then carried to the bottling machine where it is filled into the bottles which are then ready for distribution among the city patrons.

Milk Reaches the Consumer 24 to 36 Hours Old.

Milk which is delivered to the distributor's agent at some station considerably distant from the city consists of a mixture usually of morning's milk with the milk produced on that farm the night before, so that milk which is marketed by the farmer Wednesday morning is a combination of milk which was produced on his farm Wednesday morning and Tuesday night. This milk will be shipped to Detroit some time during the day of Wednesday, probably Wednesday afternoon, depending upon the time the trains operate, to some extent, and further upon the time it is delivered to the distributor's agent at the local station. If this milk is gathered up on a route by a common carrier, it may be noon on Wednesday or later before that milk reaches the agent and consequently could not be shipped in until the evening train. We will suppose, for illustration, that milk is shipped from Fowlerville, Mich., and at times, in order to supply a sufficient amount of milk for Detroit it becomes necessary to go out much further than that. That milk will arrive in Detroit, most of it, at four o'clock in the afternoon of Wednesday. Bear in mind that this milk was part of it produced early Wednesday morning and part of it Tuesday night, arriving in Detroit late in the afternoon of Wednesday. It now goes to the distributing station and is there bottled and placed on ice ready for distribution Thursday morning, so that the consumer has delivered to her Thursday morning milk that was produced at least Wednesday morning and much of it on Tuesday night.

The Cow Gives Pure Milk.

Theoretically, milk is an ideal, perfect, pure food. Leaving entirely out of the

question the possibility of contamination of milk because of some contagious or infectious disease on the farm, we may state that the milk as it is produced at that moment from the cow is clean and perfectly pure. The first few streams of milk which leave the udder of the cow do, of course, contain bacteria but when these are diluted as they are with the great volume of milk which follows and which is, we may say, almost absolutely sterile, the number of bacteria that are present in that milk, provided no contamination has taken place in any other way, we may readily see is very small. In nearly every case we venture to assert that the milk as produced would fall short of 1,000 bacteria per cubic centimeter. We have had occasion quite recently to make counts of the bacteria present in milk as delivered to the distributors' agent at a station, and have found all the way from 1,000 to 2,000,000 bacteria per cubic centimeter in different milks. Whatever difference may exist between 1,000 and 2,000,000 may be laid to the producer of that milk. In other words, milk when delivered to the human agent on the farm by the cow contains practically no bacteria but in most instances when it leaves the premises of the dairyman it has been raised in its content of bacteria by a very large percentage.

We shall discuss subsequently this point of contamination. Let it suffice for the present to say that this point, that is, the initial point, is the most abundant source of contamination to which the milk is subjected in its long journey from the producer to the consumer.

The Kind of Food Bacteria Demand.

From a standpoint of the contamination to which milk is commonly subjected, we may say that milk is indeed of peculiar composition. The bacterial invasion of a product is facilitated very materially by having that product of such a composition that it furnishes a desirable food media for the growth of the bacteria. Bacteria develop well in a media consisting at least of nitrogenous material. We do not find, for example, that bacteria develop well upon strictly pure carbohydrate material. They must have nitrogen for their sustenance in exactly the same way that plant and animal life of necessity must have nitrogenous products for food. So, therefore, one of the most efficient ways of preserving a material, that is, rendering it innocuous to bacterial invasion, is by adding to that product a large quantity of sugar which is a typical non-nitrogenous or carbohydrate material.

Why Milk is Such a Good Media for Germs.

Milk, being an ideal human and animal food, necessarily contains as a constituent part a goodly percentage of nitrogenous material, that is, milk casein and milk albumin, and these two forms of nitrogenous or protoid material are forms which are ideal, we may say, as food material for bacteria. Again, for the favorable development of bacteria a certain temperature is desirable. For the optimum development one approximating that of the human body is best. We find that in combating bacteria we may adopt either a very high temperature or a very low temperature as antagonistic to the rapid development of germs. Milk, which is such an ideal culture media for bacteria, because of its peculiar composition, is again a desirable media because of the temperature at which it is voided from the udder of the cow. This temperature being the temperature of the animal body, very closely approximates that of the human body, which is the temperature most favorable for most of these germs to develop. We therefore find that the few bacteria which arrive in the milk, together with those which are permitted to get into the milk at the time of milking, from external sources, have at hand a practically ideal media with a very favorable temperature for their rapid development. It is this condition which the farmer has to combat in delivering to the market a milk with a low content of bacteria. Practically the only manner in which they may combat this is by the exercise at the first instance of extreme cleanliness and care so that no more bacteria are added to the milk during the process of milking, and then to reduce the temperature by proper cooling as soon as possible after the milking period.

Veterinary.

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

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

Distemper — Enlarged Glands. — Four weeks ago my five-year-old mare commenced having distemper, glands of her throat opened and discharged pus; she also discharged freely from nostrils; now she has gotten over this trouble, but the glands of throat are left a little enlarged. J. T., Hillsdale, Mich.—Apply one part iodine, ten parts fresh lard to bunch in throat three times a week and give her a teaspoonful of powdered sulphate iron and a tablespoonful ground gentian at a dose in feed two or three times a day.

Lousy Colt.—I have a colt seven months old that is not thriving, and I find he has a great many lice. J. H., West Branch, Mich.—Drop 5 ozs. of crushed stavesacre seed into a gallon of boiling water, let it simmer for two or three hours, strain, then fill to original gallon and apply decoction to colt three times a week and you will soon kill all the lice that are on him. Remember, lice may be lingering in his stable, that should be killed. Whitewashing or showering with coal oil will destroy them.

Bitten by Boar—Loss of Vision.—I have a colt coming three years old that was bitten on knee by a boar which resulted in loss of vision. B. S., Hudsonville, Mich.—I fail to connect the boar bite as the cause of loss of sight; however, it is possible to be caused from blood poison following an infected wound. Give colt a dessertspoonful of Donovan's solution at a dose three times a day and leave the eyes alone.

Exostosis.—Colt six months old has a bony enlargement on outside of each hock joint which do not cause any stiffness or lameness. C. M. C., Monroe, Mich.—As the remedies you applied failed, I advise you to leave the colt alone as the enlargements are perhaps abnormal bone developments that will always remain the same without doing any harm to colt.

Leucorrhea.—I have a 17-year-old mare that occasionally has a slight discharge of blood and perspires when in stable. I also have a heifer two years old that has a breaking out on root of tail and rump which causes great itching. C. L. P., Kinross, Mich.—Apply one part bichloride mercury and 500 parts water to itchy parts of rump twice a day. Also dust on a little dry powdered sulphur daily. Give her 1 oz. of cooking soda at a dose in feed twice a day. In your letter regarding horse you failed to state whether discharge comes from nostril or vagina. Give a teaspoonful of powdered sulphate iron at a dose three times a day and if the discharge is vaginal, dissolve 1 dr. permanganate potash in a gallon of water and inject her once a day.

Indigestion.—Calf nine months old has done well all summer, but lately has been rapidly running down, notwithstanding it is fed clover hay and either oats or corn. W. A. S., Paris, Mich.—Give calf a tablespoonful of ground gentian, a tablespoonful of ginger, a tablespoonful of salt and ½ dr. ground nux vomica at a dose in feed three times a day. Perhaps you should increase her grain allowance.

Abnormal Appetite.—I have a cow that wants to chew boards and sticks all the time, she will even pull boards off the barn and seems to have a craving for wood. H. W., New Boston, Mich.—Give your cow a dessertspoonful of powdered rosin, a tablespoonful of bicarbonate of soda, a tablespoonful of ground gentian and a tablespoonful of salt at a dose in mixed feed three times a day. She should be fed a large variety of feed.

Inflamed Lymphatic Glands—Pup Has Worms.—I am very much interested in the veterinary column, but fail to find a similar case to mine. Have a cow that will freshen about the 25th of February that is giving a fair mess of milk; appears to be pretty well, but two weeks ago one hind leg swelled up quite hard, then got well and now the other is swollen considerable. I also have a six-week-old puppy that has worms, because he has vomited some up. J. G., Kalkaska, Mich.—Give your cow 1 dr. potassium iodide and a dessertspoonful of powdered nitrate of potash at a dose in feed twice a day, and apply camphorated oil to swollen leg once a day. If her bowels are constive, give epsom salts. For each pound that your pup weighs, give 1 gr. of powdered kamala every two or three days. Also salt its food.

Liver Disease.—One of our chickens was found dead ten days ago, and when opened found liver enlarged and too light in color. The gall bladder was very much distended. This week two more hens died and I found their livers were far too large and mottled, sort of spots covering them. J. W. C., Cedar, Mich.—Your chickens died of either hypertrophy of liver or tuberculosis of liver, and I am most inclined to believe they have tuberculosis, caused perhaps by drinking tubercular milk or becoming infected from some tubercular animal, or person.



HEWO BELGIANS They Are Here!

H. & H. Wolf, importers of Belgian Horses exclusively, advise old and prospective patrons that their new 1913 importation is now in their barns. It is in all respects by far the most select lot of horses of this breed that have ever been stabled in their barns. Big, weighty, type drafters of quality all through, that challenge comparison with the Best Anywhere. A select lot of mares, too. Get our terms and Guarantee. This will interest you as much as the horses.

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Wabash, Indiana
More than a quarter century with the breed.

Metz Bros, Niles, Mich.

We have a fine lot of imported and American bred

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on hand and we can sell them for less money than any other importer. Write us your wants.

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Raise mules and get rich. 18 Jack and Mule farms under one management, where can be seen 420 head fine large Jacks, Jennys and Mules, 14 to 17 hands high. Good ones. Stock guaranteed. Write for prices today. Address **KREKLEW'S JACK FARM** West Elkton, Ohio. Branch barns, Clinton, Ind.

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Great Auction Sale of Percherons!

THE FAIR VIEW STOCK FARMS
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will sell 50 head of Stallions and mares at the barns of Col. G. W. Crawford

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Improved Chesters—Boars all sold, but have a few choice young sows bred for Apr. farrow. No fall pigs. **W. O. Wilson, Okemos, Mich.**

O. I. C's—Gilts bred for Mar. and Apr. farrow, Aug. pigs. All of right type. I pay express. **GEO. P. ANDREWS, Dansville, Ingham Co., Mich.**

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LARGE TYPE P. C. A few boars left. Am booking orders for bred gilts, bred to Young Hadley, Big A Wonder and Big Defender. **H. O. SWARTZ, Schoolcraft, Michigan.**

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Guaranteed as good as grows at \$1.00 per 1000 and up. Catalogue **FREE.**
ALLEN BROTHERS, R. 9, Paw Paw, Mich.

Horticulture.

The Planting Distance For Apples.

During the past summer I visited 34 orchards in Benzie county for the purpose of measuring the growth of the trees, together with the distance they were planted apart. The age of the trees was also ascertained. A total of 37 varieties was found in the 34 orchards, the leading commercial varieties, however, being Duchess, Wealthy, Wagener, Northern Spy, Baldwin, Pewaukee, Rhode Island Greening, Roxbury. The newer orchards are setting large numbers of Winter Banana, McIntosh, Grimes, Hubbards-ton, Delicious, in addition to the above, while such varieties as Colvert, Porter, Roxbury and Golden Russet, Maiden Blush which are commonly found in the old family orchards are being dropped out in the newer plantings.

Three systems of planting were found in use: The square, hexagonal, and quinquex. The hexagonal is that of placing the trees so that they are alternate with each other like the vertices of an equilateral triangle, rather than opposite as in the square system. The quinquex, meaning five, system is that in which there is a filler set in the middle of the square. Of the three systems, the hexagonal seemed to give the trees the best disposition towards the sun and air. One can make the same argument for hexagonal planting that he does for the diagonal, rather than the square pack for

permanent trees set more than 40 feet apart; that of J. J. Seel, a man who has been successful in the apple business in different parts of this state and Illinois for 33 years. He sets his trees 44 feet apart, with a filler in the center of each square. Most of the commercial orchards of the last three years are planted 40x40 with 20-foot fillers.

Investigation showed that there is no exact relation between the age of a tree and its diameter, compared to another of the same variety but a different age. This is because the trees were in different orchards, and had received different treatments as to early care, cover cropping, etc. In general it may be expected, however, that with good care, Baldwin will begin to crowd the filler set with it at 10 to 12 years; the same would be true of other standard sorts.

Benzie Co. E. H. BROWN.

THE FRUIT AND POULTRY COMBINATION.

I have an orchard and am contemplating the establishing of a poultry business in connection with same. Kindly give me your opinion as to such a combination. Will it injure the chickens to run in the sprayed orchard?
SUBSCRIBER.

There are no branches of farming which go together better than fruit-growing and poultry. The orchards and the bush



An Orchard with Trees Set too Close Together.

boxed apples; it gives greater compactness because we are dealing with spheres, not cubes.

The following varieties were found as fillers between the permanent trees of the orchard: Jonathan, Maiden Blush, Missouri Pippin, Duchess, Pewaukee, Wagener, Wealthy.

Duchess, Wagener and Wealthy were more in evidence as fillers than any other apple; peaches and cherries were frequently used.

In 49 of the 122 cases observed, the trees were taking as much or more room than was allowed them, the measurements being always across the greatest diameter. Of the trees 10 years old or over, 54 per cent were crowded. The causes of this are, in the case of the trees set in the early days, a scarcity of cleared land; in some of the later orchards, a failure to remove fillers that had served their purpose. It seems a waste of money to many farmers to cut down perfectly sound trees; they fail to look ahead far enough to see the result of crowded trees on the cost of spraying and picking, and the loss due to poorly colored fruit. Twenty-three per cent of all the trees set out were planted with fillers.

Distance for Planting.

The question arises, what is the safest planting distance for such permanent trees as Northern Spy, Baldwin, Rhode Island Greening? Referring to the data, we find that a Baldwin tree 27 years old has a spread of 35 feet; Northern Spy the same; Rhode Island Greening, same age, 34 feet. Surely such trees should be allowed no less than 43 feet of space, if we are to drive between them with a spray rig. Yet in only one case were the

fruits will furnish the chickens a proper amount of shade and in turn the chickens will destroy many of the insects which attack the fruit. In the plum orchard hens are especially valuable as they scratch out and destroy the pupae of the plum curculio which are a few inches below the surface of the ground. The number of insects the chickens destroy will surprise one. If left in charge of the potato patch they will take care of the potato bug, as they like the newly-hatched larva. Apple worms, sawflies and grasshoppers are a few of the insects they use to balance up their diet for egg producing purposes. It has been found that one little chick consumed as much as one hundred sawflies which attack the grape leaves.

There is no danger in letting the chickens run in the sprayed orchards. Even newly hatched chicks run there without any apparent injury.

State Horticultural Society meets at Benton Harbor, February 6-7. Better cut this out and paste it in your hat for remembrance that those dates should be kept open for attendance at the meeting.

C. E. Bassett, secretary of the Michigan Horticultural Society has been appointed as specialist in co-operative organization in the new Bureau of Markets at Washington, D. C.

NEXT WEEK.

A discussion of the orchard inspection laws will be given in the horticultural columns next week. This is a subject which should be of interest to every fruit grower.

Farmers' Clubs

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—Jas. N. McBride, Burton.
Vice-president—J. F. Rieman, Flint.
Secretary-Treasurer—Mrs. C. P. Johnson, Metamora.
Directors—Wm. T. Hill, Carson City; Jerry Spaulding, Belding; R. J. Robb, Mason; Joseph Harmon, Battle Creek; C. B. Scully, Almont; C. T. Hamline, Alma.

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

Associational Motto:

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

Associational Sentiment:

"The Farmer: He garners from the soil the primal wealth of nations."

CLUB DISCUSSIONS.

Discuss Practical Topics.—Mr. and Mrs. Oscar Lepard entertained the Odessa Farmers' Club, Saturday, Dec. 13. President Foght called the meeting to order. Roll call was answered to by giving a quotation or item. John Klahn opened the first subject, "Our unimproved acres." "Land is too high to leave any unimproved, and littered yards around buildings proclaim a slack man." A general discussion followed. In the absence of Mrs. Lawrence, a general discussion on the subject for the afternoon. "Is there as much fresh air in the home as there should be?" took place. Some good points were brought up which will no doubt prove useful. Mrs. Hannah Rush was appointed a member of the flower committee.

Interested in City Market.—The December meeting of the Napoleon Club, of Jackson county, was held with Mr. and Mrs. E. A. Harrington, with 75 present. Following refreshments and several good musical numbers, F. M. Andrews read an excellent paper on the selection and care of the farm horse. The new president in a few well chosen words expressed his appreciation of the honor done him, and his hope that through the loyalty and earnest efforts of the members he might be able to make 1914 a successful year in the history of the Club. Messrs. Hunt and Parrish, of Jackson, were then introduced and made some interesting remarks on the subject of the city market. The Club adjourned to meet with Mr. and Mrs. Roy Hatt, at Lakeside Home, on Jan. 17.

Improved Last Day of Old Year.—On Dec. 31, the Maple River Farmers' Club met with Mr. and Mrs. Chas. Cook, at "Willow Dale Farm," and made the most of the last day of the year. The popularity of the host and hostess was attested by the large crowd which attended the meeting 125 being present to enjoy the bountiful dinner prepared by the hostess. The routine business of the Club was disposed of during the morning session, and the afternoon proved all too short for the completion of the program which had been prepared for the occasion. Mr. Chapman, of Owosso, gave an excellent and well received talk on the local option question, which is one of especial interest in Shiawassee county at the present time, and the Club went on record as in favor of a continuation of the no license policy in the county, also passing resolutions opposing the appointment of a candidate for postmaster to one of the principal post offices of the county on the ground that the members believed him to be one of the recognized leaders of the liquor interests in the county. An address on the subject of "Teaching Eugenics in the Schools," was given by a local leader in school work, the conclusion being reached that while needed knowledge along this line should be imparted to the children by their parents, there is perhaps a field for this sort of instruction in the higher grades of the common schools. The subject was most ably handled, the objections to, as well as the advantages of, such instruction being reviewed. Notwithstanding an invitation from the hostess to continue the session as a "Watch Meeting," most of the guests departed with the arrival of "chore time," feeling that the last day of the old year had been well spent.

Hold Annual Meeting.—The Salem Farmers' Club held its November meeting at the pleasant home of Mr. and Mrs. Dewey Farley. This being our first meeting with Mr. and Mrs. Farley, was much enjoyed. An excellent dinner was followed by a program consisting of music, readings, recitations, etc. After an enjoyable social hour, Club adjourned to meet in December with Mr. Herbert Smith.

The Club held its annual meeting Dec. 3 at the pleasant and commodious home of Mr. Herbert Smith, and Mr. and Mrs. Edwin Smith. As this was the regular election of officers that, after an exceedingly bountiful dinner, was made the order of the day. Election resulted as follows: President, Gilbert H. Thompson; vice-president, Irving Johnson; treasurer, Ira Soper; recording secretary, Miss Grace Geiger; corresponding secretary, Mrs. H. C. Thompson.

Grange.

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

THE JANUARY PROGRAMS.

State Lecturer's Suggestions for First Meeting.
Song, "Merrily Sing," No. 54, Grange Melodies.
Installation of officers.
Song, "Installation Ode," No. 29, Grange Melodies.

Reports of State Grange: 1. Statistics and work accomplished. 2. The open programs. 3. Decorations, hospitality of hosts, entertaining features, etc. 4. Grange plans for 1914.
Roll call, responded to by each naming, in one word, the thing he or she thinks the Granges of Michigan should work hardest for this year.

Song, "Parting Hymn," No. 22, in Grange Melodies.

Suggestions for Second Meeting.

Song.
Reading, "A question of property."
Next steps farmers should take: 1. To establish rural credit. 2. Co-operate with neighbors. 3. Extend use of parcel post.
A musical treat.
The 300-egg hen—what does her record mean to the ordinary hen?
Reports on the moving picture shows of the nearest town, four persons.
"The Grange Life Insurance Messenger," a surprise feature.
Closing song.

AN INSPIRING POMONA MEETING.

Oceana Pomona met in November with Oceana Center Grange. In the forenoon occurred the election of officers and reports from subordinate Granges. Ten Granges were represented, and all reported. Master Leland pronounced it the best lot of reports he had ever listened to. In the afternoon some very good musical numbers and recitations came in to vary the program from time to time, making it easier to listen to the important matters discussed. One of the best numbers was a short address by Bro. J. R. Grant, of Walkerville Grange. His subject was "What the farmer needs most." Bro. Grant is nearing the end of the allotted time of man, but the years rest lightly upon him, for he is ever busy, and his wish to serve others has lifted his thoughts from himself. He said, in part: "The farmer needs higher ideals to inspire him to better effort. A lady said to me the other day that we most need a better market for our products. Now this market question is a large one. At present we get too small a part of the consumer's dollar. We should organize and co-operate in the selling of our products, but when we try to do so, again and again we fail. Before we can be at all sure of success we must have better men, men who are schooled in the business requirements of this line of work. A part of the work of the Grange is to school men for this very important line of endeavor. We are going to build the co-operative elevator. We are going to market our own potatoes, successfully, but it will be after we have learned our lesson in large part through failures. We might well wish that the world's great reforms might come as naturally as the breaking of a morning in June, but they don't come in that way. We work and hope and pray, we try and fail and try again until at last we have won something. The world moves. The farmer of today is better off than his father was. In fact, these are the best days the farmer ever saw, but there are better days ahead and we must ever 'look forward.'"

Sister N. M. Leland gave a good paper upon "The Better Baby Movement," in which she emphasized the importance of looking after the health of the child. She said the baby of today that wins out in the baby show is not the especially pretty child, but the strong, healthy one. Her paper was very practical and much appreciated. Sister Cunningham led in its discussion and emphasized the leading thoughts brought out.

Wm. H. Taylor, the boy who represented Oceana county at the State Fair, had prepared a paper descriptive of his visit to Detroit last fall. This was listened to with the closest attention, and no doubt remained in the minds of those who heard it that William had been to the fair and had kept ears and eyes open. It is a great opportunity for a country boy to attend our State Fair, and the management has earned our most hearty approval and our best wishes by having made such a thing possible for one boy in each county.

The Pomona is a vital force in Grange building in our county, and we are coming to look forward to each meeting as a privilege not to be missed if it is possible to attend.
W. F. TAYLOR.

COMING EVENTS.

Pomona Meetings.

Ottawa Co., with Nunica Grange, at Nunica, Friday and Saturday, Jan. 9-10.
Wayne Co., with Harmony Grange, at Romulus, Saturday, Jan. 10. Dr. Eben Mumford, state speaker.
Washtenaw Co., at Ypsilanti, Tuesday, Jan. 13.
Muskegon Co., at Dalton, Thursday, Jan. 15.
Montcalm Co., with Langston Grange, Thursday, Jan. 15.

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DR. W. H. SCOTT,
Grand Blanc, Mich.

Sidney R. Feil,
President
The S. R. Feil Company

is a Registered Pharmacist, a graduate of the Cleveland School of Pharmacy and of the National Institute of Pharmacy. He has been engaged in laboratory work for more than twenty-five years and was formerly assistant to Dr. Nathan Rosewater, former Chemist of the Ohio State Dairy and Food Commission, for many years has been engaged in compounding veterinary remedies.

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