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FARM NOTES.

Treating Seed Potatoes for Scab.

As usual at this season of the year, there are many inquiries coming regarding the best method of treating seed potatoes for scab. There are a number of successful methods of killing the spores of the scab fungus on the seed. Of these methods the formaldehyde method is generally considered the most satisfactory. This treatment is at once inexpensive, safe and successful. It is applied by mixing one pint of commercial formaldehyde with 30 gallons of water and soaking the seed in this solution before cutting, for one and one-half hours. The easiest method of doing the work is to place the seed in barrels on an elevated floor of sufficient height to permit of the drawing off of the solution from holes bored at the bottoms of the barrels into tubs placed to receive it. Then the barrels can be easily emptied and filled with another batch of seed when the solution can be again dipped into the barrels. A little fresh solution will be needed to replenish the quantity after soaking a few batches, as some will be removed with each batch.

There has been an occasional complaint from readers who have used this method of treating the seed, that the seed did not come up well, which was attributed to the treatment. We have used this method so many times, however, without any such ill effects that we believe this trouble was due to some other cause. The soaking should, however, be done before the seed is cut if cutting is practiced. Care should also be taken in the subsequent handling of the seed that it be not reinfected, through the use of sacks or crates in which diseased potatoes have been handled, although it is doubtful if the infection which might occur from this cause, especially if crates are used, would injure the quality of the crop to any considerable extent.

Perhaps where a large amount of seed is to be treated the formaldehyde gas treatment, which has been described in The Farmer in previous years, would be more convenient and economical, but for the average grower the soaking method above described will be the best. There are various other methods of treating seed potatoes for scab, such as the corrosive sublimate treatment which was formerly used almost entirely, but which is somewhat dangerous on account of the poisonous nature of the material. The formaldehyde treatment is, however, so satisfactory in practice that there is little occasion for experimenting with other methods which are open to any serious objection or which have not been demonstrated to be successful.

As to the economy of the practice of treating the seed there can be no doubt. Of course, if the seed is fairly immune from scab and if the season should not be favorable for its development, there might be little loss from this fungous disease, but the only way in which we can be sure of immunity from serious loss from this cause is to treat the seed before planting.

Preparing the Soil for Alfalfa.

I purpose sowing some alfalfa seed this season, and as there has been no alfalfa grown on my farm, I am going to use inoculated soil. How much ought I to use per acre? Will the inoculated soil be injured and become of no value if kept too long before using? How is litmus paper used to test soil for acidity? Will common lime be all right for acid soil? The land that I expect to seed to alfalfa is mostly sand and gravel underlaid with clay. Common clover grows well on my land.

Clare Co.

W. D. S.

The amount of inoculated soil which it is necessary to use to get land inoculated for alfalfa which does not contain the

proper bacteria is comparatively small, from 200 to 300 lbs. per acre being generally recommended. But whether this is the most profitable amount to sow will depend upon conditions, such as the availability and cost of getting the soil. In a recent issue of The Farmer this question was discussed by a Wexford county alfalfa grower of long experience. He stated that in his first trials he used only a small amount of soil for inoculating purposes, but as he got alfalfa established on his farm and put out new areas he found it profitable to sow as much as a ton per acre of inoculated soil, as by this method he was able to get a crop the first season, while by sowing the smaller amount it took longer to get a perfect inoculation and the first season's crop was a negligible quantity. If his experience should prove to be gen-

eral, then it would certainly pay to sow a liberal amount of inoculated soil where the crop has been established on a small area and we have the soil on our own farms to use for this purpose. But where it has to be purchased or drawn from a considerable distance the proposition would be an entirely different one, so that this is really a matter for economic solution in the individual case. Any ordinary drying out of the soil such as would result from keeping it for any reasonable time in sacks would probably not injure the virility of the bacteria to any extent. In fact, cultures can be made from the dried nodules taken from alfalfa roots. The bacteria is, however, said to be injured by long exposure to

sunlight, for which reason it is best to harrow it into the soil at once after it is sown, and it is better for this reason to apply it on a cloudy day. The litmus paper test for soil acidity was described in a recent issue of the Michigan Farmer. The blue litmus paper should be secured, and either placed in contact with the damp soil in a number of places in the field by slipping it down in a cleft made in the soil with a spade, and packing the soil firmly against it with the foot or taking a composite sample of the soil and testing it in the most convenient manner in which the soil and the paper can be placed in close contact. Sometimes soil extracts are prepared and these tested with the paper, but the simpler method will answer all practical purposes for a farm test. Care should be taken to handle the paper as

pose, as it does not tend to consume the humus in the soil as does caustic lime, but will sweeten the soil and furnish the lime needed by the alfalfa plant in an available form. So far as the correction of soil acidity is concerned, the caustic lime will correct it more quickly than the carbonate, but only a limited quantity should be applied, while the ground limestone may be applied in any quantity desired without any danger of injury to the soil. Probably not more than one ton per acre of caustic lime should be applied, but a larger quantity of the carbonate will produce a more lasting benefit.

The fact that common clover grows well on a soil is a pretty good indication that it is not in an acid condition, yet common clover does well on many soils that will not grow alfalfa successfully without special preparation. In the use of lime for alfalfa it is a good plan to leave a check plot to which none is applied to determine the benefit derived as accurately as possible.

When to Sow Alfalfa.

Would you please tell me through your columns the best time to sow alfalfa, as I have an acre that I wish to sow? I have put about 30 loads of manure on it; do you think that lime will be necessary? Kent Co.

R. A. H.

It is generally conceded by successful alfalfa growers that the best time to sow the seed is in the spring or early summer. Where a large amount of manure has been applied as in this case, it would probably be better to cultivate the ground for some weeks to eradicate the weeds as thoroughly as possible, and then sow the seed without a nurse crop. The application of lime would hasten the nitrification of the manure and counteract any tendency to acidity, and unless there is plenty of lime in the soil would doubtless prove profitable. If given an application of lime and if some inoculated soil is sown to insure the presence of the alfalfa bacteria and the seed is then sown on a well firmed seed bed, care being taken to get clean, northern grown seed, success with the crop would seem to be fairly well insured, and it is probable that a profitable crop would be secured this season, if sown any time during the last part of May or the fore part of June.

Applying Land Plaster.

I would like to know through the Michigan Farmer how much land plaster to sow to the acre and when the best time to sow. I want to sow it on wheat and am going to seed to clover this spring. The land is a sandy soil in fair condition. Also, how is the best way to put it on? Grand Traverse Co.

B. H. C.

Years ago, when the soils of lower Michigan were in a better state of natural fertility than they are at present, it was the common practice to sow plaster on new seedings of clover. From 100 to 200 lbs. per acre were used with marked results in many cases. But these beneficial effects ceased to be noticeable after a few years, and at present the practice is practically abandoned. When the plaster failed to have the effect which was once to be noted where it was sowed, farmers were free to express the opinion that it was of a poorer grade than the product which they formerly got, but the real reason for the failure to get results was with the soil rather than the plaster. Scientists tell us that the beneficial effects noted from the application of the plaster were due to a chemical action set up in the soil through its presence, by means of which the unavailable potash compounds in the soil were converted into an available form for the use of growing plants. But as this reserve store of mineral plant food became exhausted, this action could no longer take place, and there was no resulting benefit from the application of the plaster. Thus in



Farm Home of B. F. Hibner, of Gratiot County.



Disking Has Largely Superseded Plowing in Preparing Land for the Oat Crop.

this sense the plaster was a soil stimulant, which aided in the growing of larger crops of clover while the soil contained a reserve supply of this unavailable mineral plant food, but it was not in any sense of the word a fertilizer, and could not produce beneficial results from any inherent property which it possessed in itself. This fact should be taken into consideration in the use of plaster on the newer land, where it may prove beneficial. The comparatively small applications above noted will serve to demonstrate whether its use will prove beneficial or not. But in the event that it does prove helpful on any new soil, the soil should not be robbed of the plant food thus liberated to its future detriment, but the larger crop of clover made possible by the use of the plaster should be made the basis of soil improvement by increasing its content of humus and the plant food removed by subsequent cropping should be returned in the form of stable manure or commercial fertilizer to an extent which will keep up its fertility and insure the successful growth of clover on the land in future years. Thus used, any agent which will help in the growing of better crops is permanently beneficial, while on the other hand, if poor methods of handling the soil are employed, they make possible the more rapid depletion of its virgin fertility.

Summer Fallowing to Kill Canada Thistles.

I have a field that I wish to summer fallow, that was into oats last year and is covered with Canada thistles; what crop can I grow on this field to be plowed under that will benefit the land the most? Genesee Co. SUBSCRIBER.

Where land is to be summer fallowed to kill Canada thistles, it is doubtful if it would be profitable to undertake to grow a crop for green manure on the land the same season. To make a good job of eradicating the thistles it is necessary to do a very thorough job of cultivating the land for several weeks when the weather is favorable for the growth of the thistles, as only by this means can these persistent plants be killed. The better plan would appear to be to allow the thistles to get started and plow them down comparatively early this spring or summer, then keep the land well cultivated, using thistle sweeps to make a thorough job of it, so that the thistles may be all killed before seeding time this fall. If the attempt is made to grow a crop for green manure and the season should be dry when the summer fallow is plowed, the thistle roots may lie dormant for some time and still grow, which they can not do if the land is plowed early when there is plenty of moisture to favor their growth.

The Proper Depth for Tile.

What is your opinion of cement tile? Will they work as well at two feet as at three or three and one-half feet? Sanilac Co. E. H. C.

While tile will work well at two feet deep more satisfactory results will be secured if they be put in deeper, as they should be in every case where the outlet will permit. This is true both because the water level in the soil should be more than two feet below the surface for best results with most crops, and because each string of tile will drain a wider area if put down a suitable depth, say three and one-half feet. At this depth the frost will also have less effect on the tile, whether of cement or clay, and it is best to get them down at least three feet if possible.

A PLEA FOR THE TREE.

In the days of the pioneers of Michigan, a tree was looked upon as an encumbrance to be gotten rid of. And it was necessary that they should be gotten rid of before the early settler could provide a home and sustenance for himself and family. But today the trees of the forest can be planted around our dwellings and along the highway, and they will add much to the beauty of our homes, as well as comfort and pleasure to their inmates. The season for doing this work is now at hand, and let me urge upon every farmer, who reads these lines to plant a few forest trees on the lawn and around the dwelling this spring.

There are a great many farmers' homes throughout the county that could be made much more attractive by the planting of a few trees. It is to the owners of these homes that this appeal is made. In some sections forest trees, especially the maple, are not easily obtained, but they can be procured at almost any nursery at comparatively small expense. For the lawn there is no tree that surpasses the maple for beauty. The lawn in front of my

house is quite large and contains about 50 different varieties of trees, the majority of which are maple. The trees are getting so large, that many kinds of birds annually build their nests and rear their young in their leafy branches. So we have plenty of music every morning during the summer, and for this reason I have named our home "Forest Park." Having planted and cared for all the trees mentioned above, I naturally take pride in them, and a large amount of money would be no temptation to have them cut down and destroyed. So, brother farmers, let me again urge you to beautify your homes, by planting plenty of trees around your dwellings and you will never have cause to regret it.

Ottawa Co.

JOHN JACKSON.

SEEDING TO CLOVER.

I would like a little information in regard to seeding clover. I am not experienced in growing clover, having lived out west nearly all my life and only three years in Michigan. My land has a sandy subsoil with dark sand on top. Have raised two crops on part and one crop on part. I have read in the Michigan Farmer about applying lime and fertilizers to soil before sowing clover. Now, I am going to test my soil with litmus paper. Now, if I find my soil to be acid after testing, would it be best to apply lime or commercial fertilizer? If you advise lime which kind would you prefer carbonate of lime or caustic lime? On the other hand, if my soil is found not to be acid how should I proceed to prepare it to put in clover? Newaygo Co. J. F. L.

Sandy land is quite apt to need lime for the best growth of clover even though it does not prove to be acid. Clover is a gross feeder upon lime, and if the land is deficient in lime then it would pay to apply it. Probably a good calcaireous marl or ground limestone would be the best form to apply on sandy soil for clover. You ought to use about a ton per acre to get the best results.

Under no consideration will lime take the place of fertilizer. We apply fertilizer to supply nitrogen, phosphoric acid and potash. There is no lime in it, practically, and if the land needs lime it should be supplied directly, but it would not be wise to supply the lime and leave out the fertilizer, because if the soil is acid the lime will sweeten the land but it will not furnish plant food and if the land is deficient in plant food this should be supplied either with commercial fertilizers or stable manure.

J. F. L. does not state whether he wants to seed the clover with oats or with any other nurse crop, or whether he wants to seed it alone. Undoubtedly the surest way to get a catch of clover is to seed it alone without a nurse crop. Go to work and fit the ground up in nice condition, give it an application of a ton of lime per acre, then use from 300 to 500 lbs. of good standard commercial fertilizer per acre and seed to clover and a good stand is almost assured. If the year is favorable, even on light sand one can get a good stand of clover by seeding with oats, but the oat plant of course robs the soil of moisture, shades the plant, and if you had a heavy growth of oats it smothers it in some instances. But on good, heavy, rich land one can get a good crop of oats and get a seeding of clover at the same time, but on poor land it might be impossible to do so, and the safest way would be to seed the clover alone. You can buy lime in the form of pulverized burned lime, pulverized limestone or carbonate of lime, calcaireous marl, or hydrated lime. Probably on sandy soil it would not be advisable to use as much as a ton of caustic lime because most sandy soil doesn't contain any more humus and vegetable matter than it ought to, and the pulverized limestone, which is much cheaper and which requires more to be effective, would be absolutely safe. I should apply lime on a portion of the field even if the soil did not prove to be acid on testing it. COLON C. LILLIE.

THE RETIRED FARMER.

Magazine writers and statesmen occasionally indulge in articles relating to what shall be done with our ex-presidents, a subject not approaching in importance the question of the employment of the ex-farmer, since the latter are so much more numerous.

Dr. Osler's facetious remark brought him into prominence in the public eye, and the spirit of fun which prompted him to propose chloroform after 60 years of age, does not apply to farmers. Years of "early to bed and early to rise" have made them, as a rule, strong of body at that prescribed or proscribed age. Per-

haps the series of articles on farm management might have injected into it at some place an interlude on the management of ex-farmers by themselves and of themselves. Any attempt toward outside management of a sturdy ex-farmer who has directed a farm and held the plow handles himself would be as useless as presumptive. This article is, then, to be considered from the standpoint of what some ex-farmers are doing to maintain the equilibrium of mental and physical poise.

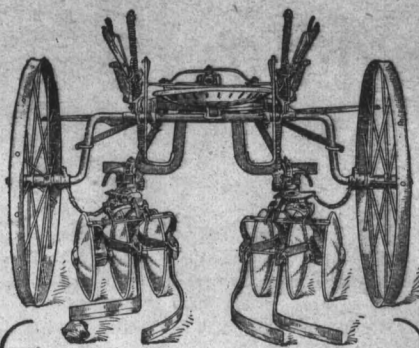
Fredrich Graff, of Ionia county, is, as the name indicates, of German stock, and if one cares to draw on a little knowledge of the German language, Graff is the equivalent of the English title of count. In this country counts only count when they are of some account. This Ionia county farmer's aristocratic woolings have been to the American Princess, the corn plant. After retiring from the active operations of his farm he has, on a small piece of land near Ionia, engrossed himself in scientific corn growing and instead of keeping his light hidden has managed the Ionia county boy's corn-growing contest. His library contains the most recent works on soils and fertility, as well as the current bulletins of the day. It is safe to say, no county surpasses Ionia in interest and in instructive work with corn exhibits, and many an institute worker who speaks on the subject of corn growing could sit at the feet of Fredrich Graff on that subject. An exhibit of corn roots with the large, deep-working shovel-tooth that cut them off, together with the starved ear resulting, told the story of root pruning by the careless corn grower. The exhibit of the various cultivator teeth that were suited to effective cultivation were also shown. Samples of soils in jars were used to show the effect of capillary raising of the water and how the soil mulch retained this water from final evaporation at the surface. But going to the real basis of effective corn growing was a drawing to scale of alfalfa roots penetrating the soil 12 feet six inches and illustrating how from the soil sub-strata the mineral elements of potash and phosphorous salts are brought to the surface for the roots of the corn plant to utilize in the rotation.

Mr. Graff quoted Iowa's corn apostle, Holden, as saying that Michigan could move into the corn belt by growing alfalfa. Incidental entirely to an exhibit of corn planted in a glass-sided box to show the root and plant, were myriads of the corn root louse. The soil in this box had been taken from a cornfield, and while the heat around a steam radiator had pushed up the corn plant several inches, it had also aroused these parasites who doubtless thought it was an early spring and time for them to be up and doing. The corn root louse is noted for its membership in the anti-race suicide club and also that it keeps down the high cost of living for the ant family. This louse is the milch cow of the ant and is carried from corn hill to corn hill by the ants, so as to find fresh feeding grounds, and by caressing the louse yields a milky fluid for the ant's subsistence. The farmer's corn root suffers and the remedy is not to follow corn with corn on the same piece of ground, as is so much done in the corn belt of the west. The appearance of this pest is somewhat rare in Michigan and it's being on exhibition at a corn show at this season of the year, while purely accidental, was indeed novel. Mr. Graff is the possessor of a medal awarded at the Omaha corn show for an exhibit of Michigan corn, so it will be seen that his skill and reputation is not merely local. When Gen. Corbin was presented to the German Emperor, in the course of the conversation he seemed so familiar with the German accomplishments and character that he was asked by the Kaiser if he had been in the German Empire before. The answer was that he had been in parts of it, and when inquired of further as to what portions he had visited, replied, St. Louis and Milwaukee. He might have added Ionia county, and included the good work in corn growing by Mr. Graff, who is a credit to the fatherland and to his adopted country and state, for he is building on the foundation of making two blades of corn grow where only one formerly grew.

If I remember, Bellamy's much talked of book, "Looking Backward," provided that men past a certain age should devote themselves to scientific and social problems relating to their occupations. Maybe we are arriving at this period and the retired farmer is the pioneer in this field, as he was in the development of the country.

Shiawassee Co.

JAS. N. McBRIDE.



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THE DAIRY

CONDUCTED BY COLON C. LILLIE.

SHALL WE BREED OUR OWN DAIRY COWS?

The question of whether we shall breed our own dairy cows or buy them from other farmers and dairymen is of great importance, and enters into the economy of the farm management as well as that of the dairy itself. It is difficult to lay down any positive rule that would apply with equal force to each individual case. Climate, soil, locality and that particular branch of the dairy business that is being practiced, all must be taken into account before we can decide upon a definite policy. The great object of every dairy farmer is to get cows, which, with a given amount of food and care, will yield the best returns at the pail. That is the whole question in a nutshell—the end, the point and the economy of the whole thing. How is the best way to bring it about?

When we go into the dairy business we must have the cows. We may go to the city stock yards and buy them or go through the country and secure them of farmers and dairymen as we can, one or more in a place. In each way we are likely to secure about the same class of cows, unless we pay an extremely high price that the owners place upon their best cows, and even then the buyer can not usually select the best cows for their owners only care to sell the culls of their herds. When we buy of a dealer or at the stock yards the same facts must be taken into account, for he buys of the same or like farmers of which dairymen would buy. Therefore, when a dairyman buys his first herd of cows he is placed at a great disadvantage, unless he pays a price far beyond actual value of the cows for dairy purposes.

To speak from the standpoint of the men who are producing milk for the city trade and finds it part of his farm economy to buy his cows for use in his dairy I shall try and point out some of the disadvantages of going out and buying dairy cows, and also to point out some of the common deficiencies found in cows that we buy for use in our herds.

Many times we buy a cow that to all appearances will prove a good producer, but when she freshens we find that she is deficient in one quarter, perhaps in two, and that we have been bam-boozled in the trade. Another may give bloody or ropy milk in one teat or two. Another is a slow and hard cow to milk. Another may be a confirmed kicker and kick over the milk and the man who is trying to milk her, with it. The next one we think is a prize and we almost sympathize with "Deacon Wright" for allowing us to have her for fifty dollars, but when we sit down and milk her, her enormous udder appears just as large when we are through as when we began and we have only a small mess of milk.

Some have garget and some jump over every fence on the farm and lead the other cows into mischief. Some suck themselves and some suck the other cows and are a nuisance at any price. Some give a large amount of bluish milk that is not profitable for butter and cheese and unfit to send to the city trade unless mixed with richer milk. Some are ugly and quarrelsome, and drive their heads and horns into every other animal on the farm, and are dear at any cost, even though they may turn a profit at the pail. Now and then some lean and unpromising heifer that we had to take in order to close a deal for the more promising ones, may prove an excellent individual if she is given a chance in the world, and few and far between we may find some excellent cows that are really worth more money, but their owner needs the money and is compelled to part with them.

This has been my experience in buying cows for the dairy and it is the same problem with all dairymen who are following this line of the dairy business where they must depend upon buying a new cow every time one is needed in the herd. If a man could always buy a good cow, even at an increased price, he would no doubt find it to his advantage to turn his whole attention solely to the production of dairy products. But such not being the case, it becomes a very serious question of which is the best permanent policy to follow.

In the first place, let us consider the financial aspect of the matter. A really good cow is worth from sixty to seventy

dollars in any prosperous dairy locality, at any time of the year. It is my judgment that we can grow a heifer up to the time she is ready to drop her first calf for about forty dollars, and after that time she will pay her way if properly managed, and by the time she is ready to drop her next calf she will be worth at least ten dollars more, that is, if nothing befalls her. This gives us the animal we want, at the time we want it most, and it is reared under our own eye and better adapted to our purposes than anything we could buy for more money.

Another item of great importance may be named in speaking of cows that are purchased. It is the home feeling which home-bred heifers or cows retain, over those that are bought at random. Every dairyman knows that it requires weeks and sometimes months for a cow to get accustomed to a new home and to new conditions. We have had some cows that would not give more than half their usual amount of milk for the first few weeks that we had them in their new home. The cow is a creature of habit and when everything is changed she is slow to take up with the new conditions.

Some will ask why we continue to buy. Simply because when we are shipping milk to the city we have no skim-milk to grow our calves with, and with all of these faults and draw-backs we can buy cows cheaper than we can raise them. While making city milk we have found this buying of cows the worst drawback to contend with, and are often tempted to give it up and ship cream instead of milk that we may have the skim-milk to feed our calves. Some of my statements may sound a little radical to dairy farmers in some localities, but facts, actual, stubborn facts, will bear out these statements. This practice of going out and buying cows of miscellaneous breeding is one of the knottiest and most perplexing problems that I have ever faced, and one that has been a stumbling block to more than one enterprising and practical dairyman.

When we consider the problem of growing our own calves for use in our herds we must first learn that the cow from which the young dairy heifer is to be bred must be in form, appearance and demonstration, a good milker. The bull to which she is to be mated should be descended from a good milking family. The breeder must be assured of this by a knowledge of the good qualities of the ancestors, both male and female, for a number of generations. Fully as much of the milk producing qualities are transmitted by the bull as by the cow.

We are, in most cases, compelled to rely upon the common cows of the country, and they are so miscellaneous bred without respect to hereditary qualities, that there is little certainty of any one individual animal transmitting any quality to her progeny. When we are compelled to rely upon this class of cows as foundation stock, the bull should be selected from some well-known dairy breed that possesses the best qualities and he should be a good individual. By following up the use of improved sires for three or four generations we may so improve the common cows that they will be high-grades and as well adapted for all practical purposes as the best pure-breeds of the cross from which they originated.

New York. W. MILTON KELLY.

THE TEN CENT TAX.

The present oleomargarine law which provides for a tax of ten cents per pound upon artificially colored oleomargarine does not prevent fraud in the sale of oleomargarine. Congress intended to make the manufacture of yellow oleomargarine unprofitable so that oleomargarine should not be made to look like butter. In framing the law, congress failed to "reckon with its host." The manufacturers of this butter substitute soon devised means for producing their product without artificially coloring it. So largely is this done that only enough tubs of artificially colored oleomargarine is produced to furnish enough packages from which to sell the yellow stuff from stamped packages into which tub after tub is emptied before the original tub is quite empty. Dealers are not required to destroy the stamp until the tub is empty, hence it takes a long time to empty it.

In doing this, even when selling the product for just what it is, the dealer can demand an exorbitant price, (just a few cents less than for butter), and throw the blame on the ten cent tax, when in reality the stuff is taxed at only one-fourth of a cent per pound.

This fact should be kept in mind: less

A Good Judge of Cows

is likely to be a good judge of a cream separator. The same quality of brains that enables a man to breed high-class dairy cattle, leads him to buy the best cream separator.

It is worth noting that the man who produced the World's Record Holstein cow

COLANTHA 4TH'T JOHANNA,

has a United States Cream Separator. This man is W. J. Gillette, of Rosendale, Wis.

And do you know that the owner of

JACOBA IRENE,

the great record-breaking Jersey cow, A. O. Auten, of Jerseyville, Ill., uses the United States Separator on his farm?

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E. K. SLATER.

CHEESE AS AN ARTICLE OF DIET.

The Swiss, who are a very healthy people, eat largely of cheese; in fact, bread and cheese form the greater part of the diet of many of them. Many other European races eat largely of cheese. The miners of England consume very much of the poor cheese made in the United States, especially the high-acid cheese, using it especially for seasoning; and the Germans eat large quantities of the cheap but highly flavored skim-milk cheese such as the hand kase, which has perhaps the most pungent odor of all the varieties of cheese made.

In the matter of comparative food values it was thought that the results of the experiments conducted by the Minnesota Experiment Station and at Wesleyan University, Connecticut, made it safe to assume that cheese was as fully digested as most of the ordinary food materials which have been studied in earlier experiments carried on in connection with the nutrition work of the Department. It would in fact be undesirable for a larger per cent of any food material to be absorbed than was the case with the cheese.

Heretofore cheese has seldom been regarded seriously by consumers of any class in the United States as a possible cheap staple food. All consumers of cheese with very few exceptions use it as a luxury in small quantities at comparatively rare intervals. While in the aggregate a large quantity of cheese is eaten in the United States, the quantity is nevertheless almost negligible when compared with some other products of less food value and inferior palatability.

The greater part of the cheese consumed in this country is eaten without any preparation, while in many European countries the cheese is either sprinkled on other foods—vegetables usually—or is cooked with the food. Americans evidently have much to learn from Europeans of some of the possibilities of preparing such dishes. A number of European varieties of cheese are made extensively and exclusively for use in connection with other foods or in cooking. Among these is the well-known Parmesan, a hard cheese made from skim-milk; and also the sap sago cheese, a small conical-shaped cheese made from skim-milk and highly seasoned with herbs. The Italians use cheese for flavoring as Americans use salt and pepper, having it grated and constantly at hand in a small shaker. With them macaroni with cheese is a common dish, as are other cheese preparations. An excellent dish is the cheese omelet, while warmed-up potatoes can be made very appetizing when cooked with cheese.

It may be, perhaps, that the American people have gone so far in the consumption of partly ripened and mild-flavored cheese that the probabilities of learning to use cheese as a flavoring are very remote, as it is only the well-ripened or highly flavored cheeses that are satisfactory for flavoring purposes. It is perhaps a matter for some regret that so much mild-flavored cheese has come to be used, as it is probable that much more satisfaction would be felt by consumers in general with this great food product if they had learned to like the well-ripened product with a well-developed flavor. It is generally conceded that people who like a highly-flavored cheese never become tired of it.

A comparison of the food value of cheese with that of other highly nitrogenous food materials may be of interesting value. No kind of meat excepting dried beef carries such a large percentage of protein as cheese, and as dried beef contains a much greater percentage of water, the other food constituents aside from the protein are much less than is found in cheese. Fresh beef as purchased has, weight for weight, little more than half the food value of cheese in either protein or fat, and the same is true of practically all other fresh meats, which have in many cases such a large percentage of water that they are noticeably inferior to cheese in food value. Bacon or fat pork are exceptions, but their food value is mostly in the fat,

which can be and is replaced to a great extent by the carbohydrates of vegetables at a much less cost and sometimes perhaps at a benefit to the health of the consumer. Fish and pork each have a notably large percentage of refuse, while eggs have a high percentage of water. To sum the matter up, a pound of cheese has nearly the same food value as two pounds of fresh beef or any other fresh meat as food; it is worth as much as or more than a pound of ham and is more digestible, and it is equal to two pounds of eggs or three pounds of fish. In price good cheese made from unskimmed milk costs about a third more than round steak and twice as much as the cheaper boiling beef, while it costs practically the same per pound as smoked ham and bacon. It costs usually a third more than fresh fish.

Cottage cheese or cheese made from partially skimmed milk is cheaper even than the American or Cheddar cheese. The first costs about one-third as much and the partly skimmed product, about two-thirds as much as the so-called "full cream" cheese. Practically the only food product that rivals cheese in food value and cheapness is dried beans.

In view of the foregoing comparison of food values it is a matter of some wonder why there is not more of a demand for cheese, especially by people of limited means. Estimates made by the Department of Agriculture, in the twenty-second and twenty-sixth annual reports of dairy bureau and in bulletin 55 of the Bureau of Statistics, show that the people of the United States consume between 169 and 185 pounds of meat annually per capita, besides fish and poultry, while the annual consumption of cheese is only about four pounds per capita. Even granted that fresh meats are more palatable to most people, some other explanation must be found for this wide difference in the quantity of the two products eaten. A great proportion of the laboring class in this country are able to eat plenty of wholesome food, but they can not afford to discriminate against a cheap, palatable, and wholesome food in favor of a higher-priced food. The only way to account for the comparatively limited demand for cheese is on the basis of custom and lack of knowledge. People usually eat what they have been accustomed to, making variations with narrow limits only, and never changing the general character of their food. New foods are not sought.

In this connection particular interest attaches to the quantity of salt or cured pork products eaten in comparison with cheese. Cured pork, ham, and bacon, to about seven times the value of cheese are eaten annually. No one can say that the pork products, with the exception of good ham, are more palatable than cheese, and they are not known to be more healthful. These pork products are usually eaten by the poorer classes who can not afford to buy fresh meat but who could afford to buy cheese, and cheese makes a better food in the dietary, because of its high protein content.

Cheese can no longer be discriminated against because of a suspicion that it is not a healthful food. The absolute lack of any disturbance of the general health of the subjects used in the experiments reported in circular 166 of the U. S. Bureau of Animal Industry, is proof that cheese can be eaten in large quantities without danger to health. The Swiss cheesemakers, also many of the Swiss farmers of southern Wisconsin, eat unusually large quantities of cheese, and they are noted for athletic attainments and physical endurance. They brought the custom of eating cheese from their native country, where cheese is a very important item in the diet. The consuming public, especially that part of it which needs to practice economy in buying food, would do well to turn its attention a little more toward cheese, since greater quantities can be used at a saving to the consumer.

The foregoing is a summary of work done in the interest of cheese manufacturers and consumers made by the government, and we give the matter full space here, believing it to have an economic bearing upon the farmer as well as upon the workmen of cities.

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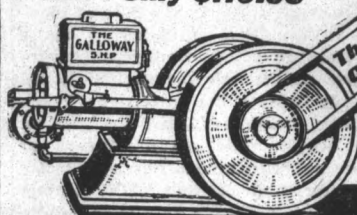
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In producing an article the main object should be quality and not always quantity, for at the present and in the future an article that is put on the market must equal the best, or competition will reduce the price to the cost of producing. Hence the producer's ambition should be to produce an article of the best quality. I know of nothing where requirements must be held to more strictly than in butter making. There is a large amount of inferior butter put on the market; but it is a hard matter to deceive consumers the second time. When they purchase an inferior grade once they will not do so again, hence the producer of poor butter is always looking for a market while the producer of first-class, gilt-edge butter has no trouble in continuing to sell to the same customer.

There are several causes for producing poor butter. Sometimes it can be traced to the barn in which the cows are kept, or it may lie in the way the milk is handled or in not properly caring for the milk vessels or in the washing of the butter after it is churned. Cleanliness with everything that comes in contact with the milk is one of the most essential factors to be considered in the making of pure butter, beginning at the barn and not stopping until the butter is on the market. The barn in which I keep my milk cows is kept as clean and in as good sanitary condition as it is possible for me to keep it and before the cows are pailed each one gets a thorough cleaning with the comb and brush. This precaution is taken for two reasons; first, it is essential to secure pure butter, and second, it is good for the cow's health and well-being. By cleaning the cow's coat perfectly clean before milking it prevents any dirt or trash that might be sticking to her from falling into the milk pail. I also keep a wet cloth for the purpose of dampening the cow's udder before milking. This is done to keep loose hairs from falling. There are a great many who consider the task of milking a disagreeable and filthy one and, in fact, it is, if everything is not properly arranged as it should be; but if the barn is kept clean, the cows brushed and the milker clean himself, the task of milking is all but a disagreeable one. Before I begin milking I always wash my hands and see that there is no dirt on my clothing.

The care of milk vessels is another one of the essentials in good butter making. After I have used milk pans, cans, strainers, pails, separator, and even the churn, I do not set them away until they are needed again before washing them, but instead I wash them immediately after using; first rinsing them out in cold water and then scalding them out with boiling water, using a washing powder to clean them perfectly, after which I scald them again and then set them away in the sun and air to dry. I never like to keep my milking utensils in a damp place or where they will be exposed to any kind of trash blowing on them, a shelf put up outside the milk house and where the sun will have free access to it, the shelf to be tightly screened in, is a desirable place to keep milk vessels.

The churning is a matter of great importance in manufacturing a good quality article. It is of much importance to know just when to stop the churn. For best results in freeing the granules from the buttermilk and thoroughly mixing the salt with the butter is when the granules are about the size of a navy bean or a grain of coffee. After the milk is well drained from the butter granules, water should be added of about the same temperature as the buttermilk. Give the churn four or five revolutions very slowly so that the water will come in contact with the butter and wash out the remaining buttermilk, if the barrel churn is used the butter may be salted in the churn, usually about one ounce of salt to each pound of butter is sufficient, and by giving the churn four or five more revolutions the salt will become thoroughly mixed with the butter. Then let stand for some 15 or 20 minutes before working the butter, in order to let the salt fully dissolve. After the salt and butter are thoroughly mixed the butter is then ready for working. Place the butter in the butter bowl and begin by vigorously working the butter with the butter paddle and work it until it is of the proper fineness and the milk and water is removed from the butter. I then mold my butter in one-pound packages and wrap in parchment paper, when it is then ready for the market.

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L. G. JOHNSON.

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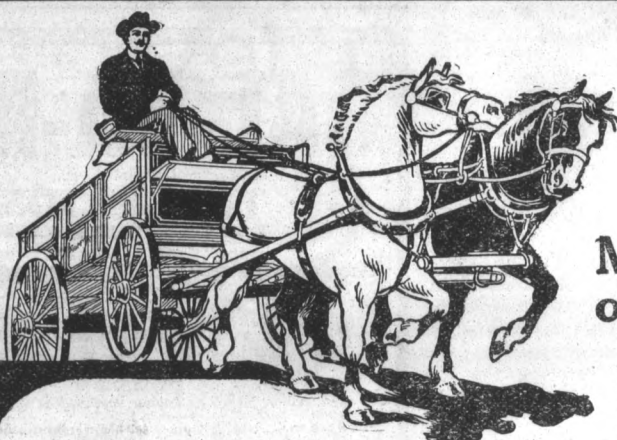
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Cottage cheese or cheese made from partially skimmed milk is cheaper even than the American or Cheddar cheese. The first costs about one-third as much and the partly skimmed product, about two-thirds as much as the so-called "full cream" cheese. Practically the only food product that rivals cheese in food value and cheapness is dried beans.

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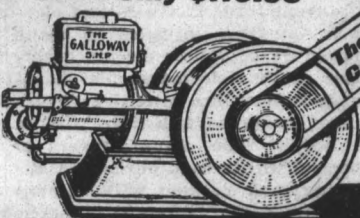


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In producing an article the main object should be quality and not always quantity, for at the present and in the future an article that is put on the market must equal the best, or competition will reduce the price to the cost of producing. Hence the producer's ambition should be to produce an article of the best quality. I know of nothing where requirements must be held to more strictly than in butter making. There is a large amount of inferior butter put on the market; but it is a hard matter to deceive consumers the second time. When they purchase an inferior grade once they will not do so again, hence the producer of poor butter is always looking for a market while the producer of first-class, gilt-edge butter has no trouble in continuing to sell to the same customer.

There are several causes for producing poor butter. Sometimes it can be traced to the barn in which the cows are kept, or it may lie in the way the milk is handled or in not properly caring for the milk vessels or in the washing of the butter after it is churned. Cleanliness with everything that comes in contact with the milk is one of the most essential factors to be considered in the making of pure butter, beginning at the barn and not stopping until the butter is on the market. The barn in which I keep my milk cows is kept as clean and in as good sanitary condition as it is possible for me to keep it and before the cows are pailed each one gets a thorough cleaning with the comb and brush. This precaution is taken for two reasons; first, it is essential to secure pure butter, and second, it is good for the cow's health and well-being. By cleaning the cow's coat perfectly clean before milking it prevents any dirt or trash that might be sticking to her from falling into the milk pail. I also keep a wet cloth for the purpose of dampening the cow's udder before milking. This is done to keep loose hairs from falling. There are a great many who consider the task of milking a disagreeable and filthy one and, in fact, it is, if everything is not properly arranged as it should be; but if the barn is kept clean, the cows brushed and the milker clean himself, the task of milking is all but a disagreeable one. Before I begin milking I always wash my hands and see that there is no dirt on my clothing.

The care of milk vessels is another one of the essentials in good butter making. After I have used milk pans, cans, strainers, pails, separator, and even the churn, I do not set them away until they are needed again before washing them, but instead I wash them immediately after using; first rinsing them out in cold water and then scalding them out with boiling water, using a washing powder to clean them perfectly, after which I scald them again and then set them away in the sun and air to dry. I never like to keep my milking utensils in a damp place or where they will be exposed to any kind of trash blowing on them, a shelf put up outside the milk house and where the sun will have free access to it, the shelf to be tightly screened in, is a desirable place to keep milk vessels.

The churning is a matter of great importance in manufacturing a good quality article. It is of much importance to know just when to stop the churn. For best result in freeing the granules from the buttermilk and thoroughly mixing the salt with the butter is when the granules are about the size of a navy bean or a grain of coffee. After the milk is well drained from the butter granules, water should be added of about the same temperature as the buttermilk. Give the churn four or five revolutions very slowly so that the water will come in contact with the butter and wash out the remaining buttermilk, if the barrel churn is used the butter may be salted in the churn, usually about one ounce of salt to each pound of butter is sufficient, and by giving the churn four or five more revolutions the salt will become thoroughly mixed with the butter. Then let stand for some 15 or 20 minutes before working the butter, in order to let the salt fully dissolve. After the salt and butter are thoroughly mixed the butter is then ready for working. Place the butter in the butter bowl and begin by vigorously working the butter with the butter paddle and work it until it is of the proper fineness and the milk and water is removed from the butter. I then mold my butter in one-pound packages and wrap in parchment paper, when it is then ready for the market.

Illinois.

L. G. JOHNSON.

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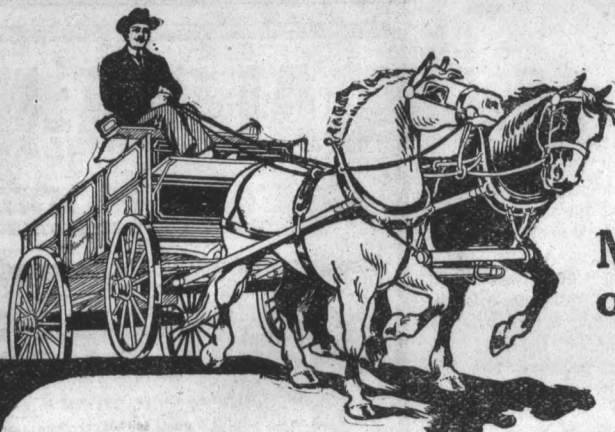
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LIVE STOCK

FEEDERS' PROBLEMS.

A Ration for the Work Horses.

I would like to ask through your paper what feeds would make a balanced ration for a farm team weighing 1,400 lbs. each, and for a team 500 lbs. heavier and lighter. Also, for a mare raising a colt and doing some work. I have timothy and clover mixed hay, which would you prefer, and whole or ground grain? Would I need to change grain ration when on good pasture?

Sanilac Co.

S. N.

There is really no better combination of feeds for farm horses than good clean mixed hay and oats. Where oats are not available, or where they are relatively higher in price than corn as the basis of the ration, a mixture of six parts corn, one part oil meal, two parts bran, by weight, and as many oats as may be desired makes a very well balanced grain ration, of which a less quantity will be required by weight than of oats where fed as the exclusive grain ration.

The amount which should be fed depends altogether upon the work which the horses are called upon to do. It is a very poor plan to fix a standard ration which is fed to the horse at all times, whether heavy or light work is to be done, or while standing in the stable. When the farm horses are called upon to do heavy or continuous labor they should be fed accordingly, but when their work is light, or when they are standing in the stable for even a few days at a time, the grain ration should be decreased accordingly. Serious attacks of azoturia are not uncommon where horses are fed heavily during even a comparatively short idleness. It is probable that more horses, especially farm horses, suffer from insufficient food than from an excess of grain in the ration. However, it requires a considerable degree of intelligence and skill to feed a team for best results in work, and at the same time keep them in good condition throughout the season. Then there is considerable difference in individuals. It is easy to lay down a general rule, but such a rule cannot be applied to all individual cases.

A great deal of experimental work has been done and a scientific basis has been established for computing the theoretical ration which should be fed to horses at various kinds of work. But for practical purposes experience and observation are a sufficient guide for the feeding of farm teams. As a general proposition, a horse at ordinary farm work should receive from 12 to 14 lbs. of oats, or its equivalent, per day, with a liberal allowance of mixed hay as roughage. Little change should be made in the grain ration when the horses are on grass, although there is some question about the economy of pasturing work horses for any considerable length of time during the period of heavy work upon the farm. The maintenance ration for an ordinary horse would consist of about 5 lbs. of oats, or its equivalent, with a moderate feed of mixed hay.

The ration for the brood mare should be a little narrower in its content of nutrients than for the work team. About 1 to 7 being the accepted standard for the latter. Also the brood mare will require more liberal feeding if called upon to perform an equal amount of work with the other horses.

In a sense, good care-takers are born and not made, but any man who likes a horse and will give the matter a little attention can become an expert in feeding for the performance of a maximum amount of work, and the maintenance of the animals in good condition.

A Ration for the Growing Pigs.

We are feeding a small lot of pigs, farrowed about Jan. 6th last, and they are doing nicely on skim-milk and middlings, ground oats and a little oil meal, a little corn between meals. We have some blood meal; would it be well to feed them some of that? How much? Pigs weigh about 60 to 75 lbs. Can blood meal be used with benefit and safety for growing calves?

Ottawa Co.

J. L.

The ration that is being fed to these pigs is well calculated to push their growth and keep them in a thrifty condition. The corn fed will balance up the protein in the skim-milk, and should be fed in proportions ranging from one to three pounds of skim-milk to one pound of corn for most economical results, varying the amount of corn within these limits according to the age of the pigs. The middlings, being a well balanced feed in themselves will not disturb the balance of the ration and may be fed in quantities suited to the age of the pigs and the relation of cost as compared with other

feeds. The ground oats with a little oil meal added will also make a well balanced factor in the ration, so that the combination of these feeds in the ration may be varied to suit convenience or economy as the pigs get older, although there is no doubt that the pigs will make better gains upon a variety of feeds such as has been supplied to them than they would upon a more limited diet, since the combination is at once more palatable and will be better digested and assimilated than will be the case where even a balanced ration made up of but one or two grains is fed to them.

If blood meal is to be fed to the pigs, it should be fed in connection with corn meal or some other carbonaceous grain, since blood meal is very high in its content of protein, and as there is already enough protein in the ration being fed as above described, it would not be economical to add any considerable quantity of blood meal to it, unless corn or other starchy grains are used as the base of the ration. Blood meal contains more than 50 per cent of protein and is easily digestible. The ration for the pigs should at the start have a nutritive ratio of about 1:4, and should be gradually widened until when the pigs weigh 100 lbs. it may be 1:5 and, at 200 lbs. weight, may profitably be widened to 1:6. With these figures as a basis we find that for mature hogs where some skim-milk and middlings are used 100 lbs. of blood meal to 1,000 lbs. of corn will make a fairly well balanced ration. Where the pigs are about 100 lbs. weight it would give about the right balance to the ration to feed 100 lbs. of this meal to 800 lbs. of corn, providing there were not an excess of protein in the other feeds made a factor in the ration. But for best results it would probably be better to limit the feeding of blood meal to about 10 per cent of the corn fed in the ration, and make up any deficiency required to balance up the ration by the use of other protein feeds, such as are mentioned in this inquiry. The writer has never used blood meal, but has used tankage in practically the proportions above mentioned with excellent results with growing pigs. The amount of nitrogenous concentrates needed to balance up the ration will be considerably reduced if clover or alfalfa pasture is available in the summer season, and if clover or alfalfa hay is made a factor in the ration during the winter season.

Summer Pasture for the Sheep.

What can I sow on rye in the spring that will make pasture for sheep after harvest? I intend to seed to clover.

W. J. C.

It will be difficult to sow any crop in the rye this spring that will make good pasture for the sheep after harvest. Rape may be drilled in, but it will not make a rank growth and will not furnish as much feed after harvest as would be the case if sown with oats where it would have an equal chance with the grain crop in getting a start. The best thing to do in a case of this kind where summer pasture will be short is to sow an area of rape for summer feed if the ground is available, or pasture the rye for a time this spring, then plow the land and sow to rape while the sheep are running on the grass pasture. In this way the rape will make a growth which will afford good summer pasture, while the sheep are on the grass pasture, and if the fields are accessible to the flock at the same time after the rape reaches a suitable size, the combination will make the best possible sheep pasture during the season when it is most needed by the flock.

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The annual meeting of the Standard Delaine Merino Sheep Breeders' Association was held at Ann Arbor, Mich., on April 20. The reports of the secretary and treasurer show the association to have been reorganized during the past year, and to be now in a good growing condition, with money in the treasury.

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LOSSES AMONG THE PIGS.

It may not be considered best to talk very learnedly about the wisdom of locking the barn after the horse has been stolen but it would be very unwise to not try to undertake to devise means by which losses could be prevented in the future. One who submits to losses from the same causes, year after year, without seeking to prevent them, neglects a duty which he owes to himself and his business.

Reports have been current during the present spring, that a large percentage of the pigs farrowed early, were dead when farrowed, or died in a short period of time. Such results are expected by the close observers and experienced swine breeders. Weather conditions during the past winter have been such as usually precede heavy losses among the young pigs. Weather, feed and care have much to do with the outcome with the spring litters. Lack of comfortable quarters is not a common complaint at the present time. Most breeders take precautionary steps in this direction.

Following a winter when we have cold weather almost constantly, there is generally a severe loss of pigs at farrowing time. During the last winter the prices have been high, and there may have been a desire to do too well with the sows. They have undoubtedly been well fed, have been furnished a comfortable place in which to sleep, and have not been given a sufficient amount of exercise.

The matter of exercise with the brood sows is too often neglected. Without philosophizing and giving the reasons why, I will say that it is absolutely necessary. To neglect the exercise is to endanger the chances of success with the spring pigs. It is by far better to compel the sows to go a considerable distance for their feed, twice per day, than to trust to moderately warm weather to encourage them to stir out and exercise of their own will. They will be prone, if well fed, to spend a good deal of time in the nest, not exercise enough to insure a good circulation of blood, the whole system becomes sluggish, and they are unable to transmit life and vigor enough to the pigs to enable them to live and get a start in life.

The Feeds.

It is a solemn fact that a great many breeders never give the matter of proper feeds for the pregnant sows any consideration. When corn is plentiful and cheap, it is an easy matter to throw scoopfuls of ears of corn to the sows, and pay but a little, if any, attention to their getting anything else to eat, and give but little thought to what they have to drink. In many cases the sows are shut away from other feeds and are obliged to live on the corn. If the sows get fleshy, and look well, they congratulate themselves that they are doing well by them.

The experience of many years at the business of breeding, and the experiments made at different stations have proved, very conclusively, that brood sows confined to a corn diet can not produce pigs that are harmoniously developed. The feed has a great influence on the litter. When fed too much corn in proportion to the other feeds, the pigs will be fat and glossy, but will have very small bones.

One should consider how impossible it is for the sow to nourish a dozen pigs, build a strong, bony frame, with good muscles, and healthy vital organs, unless given feeds that will enable her to do it. They may draw on themselves to a certain extent, but will not have enough of the needed material stored up in their system to spare to build them up well.

The sows should have a variety of feeds, as no one feed alone can enable them to transmit to the pigs all that is required. In connection with the grain feeds, such as corn and oat chop, wheat bran, middlings, skim-milk and table wastes, should have access, regularly, to some clover hay and cornstalks. I would put an emphasis on ground oats, middlings, milk and hay, as they furnish material to build the frame and vital organs, and transmit life and energy. With such feeds the pigs will be well fed instead of having the life starved out of them before they are born. It is far better to have the pigs look a little gaunt and bony, at birth, if they have plenty of life, than to look fat, sleek and lifeless.

When we have become well educated as to the necessities of our pregnant animals, and aroused to the importance of meeting those necessities, and practice what we know is best for them, we will not hear so much about breeders having

"bad luck" with their sows at farrowing time. We will realize that there is a cause for all the ills and mishaps in the business, and seek to avoid a repetition of the same in the coming years. It is too late to correct the mistakes of the present year, but it is a good time to seek to get a knowledge of what caused the losses, and adopt better methods of feeding and care, which will insure greater success in the future.

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LIVE STOCK NOTES.

Cattle from Mexico are arriving at Fort Worth, Texas, and a recent shipment of steers and stags reached there costing \$3.80 per 100 lbs. The tariff on Mexican cattle is \$3.75 per head, provided the value per head does not exceed \$14.50, after which price the charge is 27 per cent of their value. The recent shipment referred to is the first consignment from the tick-infested region of Mexico brought into the United States in 16 years. Under former quarantine regulations cattle from the tick regions of Mexico were forbidden to cross the border, but recently congress modified the order so as to allow a larger supply of cattle for stock and slaughter purposes. Approximately 750 car loads of Mexican cattle are received at Fort Worth annually, but they are shipped from above the quarantine line.

Dairy calves have been marketed this spring in enormous numbers at Chicago, the surrounding dairy regions of Michigan, Wisconsin, Illinois, Indiana, Minnesota and other states having been drawn upon heavily, and prices fell to comparatively low levels after the period of extremely high prices for choice light-weight vealers. Dairy calves are usually hurried to market before they have time to get in good flesh, and their undesirable condition causes them to be sacrificed at extremely low prices. Recently the best vealers have shown more activity and sold higher for the Easter trade, and after the rush to market dairy male calves abates, better prices may be expected. The trans-Missouri country is beginning a policy of maturing its calves, farmers having become aroused to the necessity of taking steps to restore the sadly depleted supply of stock cattle.

In a recent issue of the Live Stock Report, published by Clay, Robinson & Co., of Chicago, George W. Stitt, a widely-known general farmer and stock feeder of Iowa, reports fewer cattle fed in that region the past winter than for many years, the causes being the high price of feeders and the relatively low price for fat cattle in the markets of the west. Good four-months' fed cattle have been shipped from there that brought but \$6 per 100 lbs., while the cost for a useful class of feeders was around \$5.40. Mr. Stitt says it requires considerably more than a margin of 50 cents to feed cattle for a period of four months in Iowa on farms where that land is valued at \$140@165 per acre, and the indications are that feed lots will remain unfilled during the spring and summer months. Mr. Stitt says his section is well supplied with hogs, more sows having been bred than for several preceding years, and farmers are getting good pig "crops." He looks for a good movement of hogs to market during the spring and summer. Mr. Stitt says regarding beef production: "Methods of producing beef in this country will undergo a marked change within the next few years. Either prices for beef will advance to a prohibitive figure or a cheaper way of making it must be evolved. The big breeding and grazing grounds of the west and southwest are gradually disappearing, resulting in a scarcity of stock and feeding cattle and high prices for the same. At present there is little money in feeding cattle on the high-priced land of the middle west. American farmers must adopt the methods of Continental Europe in producing beef before many years are passed. We must get more weight on grass and use a cheaper feed than corn. This problem must be worked out or the much talked of beef famine will be an unpleasant reality not many years hence."

Elmer M. Potter, a large farmer and stockman of Illinois, had a consignment of 20 head of fat Hereford and Shorthorn steers on the Chicago market recently that averaged in weight 1,346 lbs. and brought \$6.50 per 100 lbs. These steers were purchased as feeders at Kansas City about the middle of last October at \$5.35, when they averaged in weight 938 lbs. Mr. Potter said they returned him a profit, besides leaving valuable fertilizer on the land. He had the cattle about 180 days, during which period they made gains of about 407 lbs., or averaged 2 1/4 lbs. per head each day. They averaged 1,405 lbs. just before starting for Chicago. After being purchased Mr. Potter put them on clover pasture, with hay in the field, and this was their feed for a period of 75 days, during which time they gained 206 lbs. per head. They were on a feed of ear corn and clover hay, with access to straw stacks for 103 days, and their gain in that time was about 206 lbs. each.

Chicago live stock commission firms are advising their country shippers to abandon the old-time practice of making Mondays and Wednesdays the only days in the week for liberal offerings of cattle and to divide up their shipments so as to have more cattle for the other days. The present system is obviously in the interest of buyers, and they seldom fail to work prices down on the days of liberal offerings. It is suggested that the change be applied to well fattened cattle, as well as to butcher stock and stockers and feeders. This is a time when owners of cattle are not reaping any too large profits, and any change by which they will be helped to obtain better results should be adopted at once.

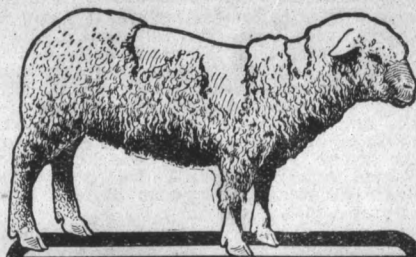
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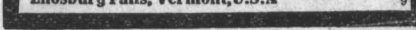
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VETERINARY

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

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

Sprained Tendons.—I have a horse that has been troubled for the past six weeks with weak tendons; a few days' rest seems to help, but as soon as he is driven or worked he goes quite lame. I am anxious to put him in shape for spring work. H. H. H., Bradley, Mich.—Clip hair off tendons and apply cerate of cantharides, this will blister and strengthen the weak cords.

Diseased Scalp.—I would like to know what can be done to prevent a horse rubbing mane and tail. S. W. Auburn, Mich. Wash mane and tail with soapuds, adding a tablespoonful or two of kerosene to each quart of water; also apply one part kerosene and five parts vaseline to sore parts of scalp once a day.

Stifle Weakness—Stringhalt.—I have a very valuable Percheron filly that swings her hind feet and jerks them up while traveling. She is also sore in front, but appears to be perfectly healthy. G. H. Metamora, Mich.—Apply one part turpentine, one part aqua ammonia, one part oil of organum and four parts olive oil to stifle every day or two. Give her 1 dr. ground nux vomica, 2 drs. powdered nitrate of potash at a dose in feed two or three times a day.

Question About Arsenic.—I noticed that you prescribed Donovan's solution of arsenic and Fowler's solution of arsenic for horses and I am told that it is a very good tonic to give horses. W. S. Bay City, Mich.—Donovan's solution of arsenic and Fowler's solution contains 4 1/2 grs. of arsenic to each fluid ounce. There is a little difference in the two preparations, as Donovan's solution contains some iodine and acts a little better than Fowler's solution in correcting eruptive troubles of the skin; however, it is more irritating and less reliable than Fowler's solution. It is not good practice to give an animal arsenic for too long a period.

Poor Grain Eater—Roup.—My 13-year-old mare is a poor eater of grain, but does not appear to be sick and I would like to know what to do for her. Out of a flock of 50 hens two of them die daily. They have a discharge from the eyes and mouth. They show so few symptoms that it will be troublesome to tell what ails them. D. J. T., Morgan, Mich.—Float her grinder teeth and give 1 dr. ground nux vomica at a dose in feed two or three times a day. Your chickens may have roup and if so separate the well from the sick; give each sick one a dessertspoonful of castor oil and dip head in kerosene holding it under until it breathes once; another remedy is to dip the fowl's head in one part salt and 100 parts water, once or twice a day. Their coop should be kept clean.

Loss of Appetite.—I have a mare that has a poor appetite for corn and is not very fond of any kind of ground grain; she is wind broken, whistles when driven fast, and is not thriving. R. G. B., Coloma, Mich.—Her teeth may need floating; change her feed, giving some roots and 1/2 oz. ground gentian, 1/4 oz. fenugreek, 1/2 oz. ginger and 1 dr. ground nux vomica at a dose in feed three times a day.

Leaking Navel.—I have a colt that commenced leaking at the navel when seven days old. He was thoroughly disinfected from the time he was born and I am at a loss to know what caused it; unless he pulled off end of cord. Clear water comes from wound and the colt is not sick. H. E. M., Hudson, Mich.—Stitch wound close and apply equal parts boric acid and oxide of zinc.

Dropsy.—A swelling came on my horse; bunch is situated between fore legs; it broke and discharged some watery fluid and later pus. I gave him sweet spirits of nitre and saltpeter and he recovered. The bunch is now harder and smaller. W. H. R., Oakley, Mich.—Apply equal parts spirits camphor and tincture of iodine once a day and give 1 dr. iodide of potassium at a dose in feed three times a day.

Wart.—Have a colt that has several warts on nose and face and I would like to know if there is danger in letting him pasture on alsike clover. J. J., Coleman, Mich.—Cut long warts off, apply acetic acid to flat ones daily and apply vaseline to colt's nose daily, if the clover irritates skin.

Mange—Surfeit.—Have two horses that are troubled with some sort of skin eruption; one of them is 30 and the other nine years old. I am told their blood is impure, others tell me they have mange. M. McK., Stockbridge, Mich.—Clip them and apply one part bichloride of mercury and 1,000 parts water to sore parts of body once a day. Give each horse a dessertspoonful of Fowler's solution at a dose in feed two or three times a day. Feed them some roots and after giving the arsenic solution for 15 days give two tablespoonfuls cooking soda at a dose in feed twice a day for two or three weeks.

Suppurating Udder.—One of my cows had an attack of milk fever when she came fresh last year; some time later one quarter of udder caked; later it

opened and discharged pus. Several times since it has gathered and broke open and I would like to know if milk from her is fit for use. W. M., Beulah, Mich.—Heal the diseased quarter by opening it up freely to let pus drain, then apply one part carbolic acid and 30 parts water to wound twice daily. Her milk is not fit for domestic use, until diseased quarter heals.

Irritation of Ovaries.—I have a mare that acts as though she was in heat almost continually, but refuses to mate. Whenever she comes near another horse she squeals and kicks in a sort of vicious manner. A. B., Harietta, Mich.—Give her 1/2 dr. camphor at a dose two or three times a day. She will perhaps never breed and it might be a good plan to have her spayed.

Itchy Tail.—My colt is inclined to rub tail and he frequently gets fast in stall. F. J. P., Rosebush, Mich.—Apply one part kerosene and three parts vaseline to scalp three times a week. The tail should be washed with soap and water twice a week and it is good practice to use tar soap.

W. R., Grand Rapids, Mich.—I am inclined to believe your heifer is healthy, but you keep cream too cool.

Warbles.—A large black worm or grub came out of the back of my cow and I am anxious to know what it is and if she needs treatment. M. P., Kemos, Mich.—Grubs can be found in the back of a great many cattle; they produce some irritation and, of course, damage the hide by perforating it. Use a sharp knife to make opening a little larger, squeeze out grub, kill them and apply boric acid to sores daily.

Navel Infection.—I have a calf that seemed to be well up to a week old; since then he seems stiff—has a cough and is not thriving. E. C., Prosper, Minn.—Give him 5 grs. quinine at a dose four times a day and apply equal parts boric acid and oxide of zinc to navel twice a day.

Swollen Neck.—Have a cow that has a soft swelling extending from throat down neck some 15 inches, and I would like to know how to reduce it. E. P., Mancelona, Mich.—Apply tincture of iodine to swelling once a day.

Capped Hock—Partial Paralysis.—Have a horse that has a bunch on knee cap and I would like to know the best remedy to reduce it. I also have two hogs that seem to be losing the use of their legs and what I have done for them fails to do them much good. F. J. F., Temperance, Mich.—Apply equal parts tincture of iodine and spirits camphor to capped hock three times a week. Feed hogs less corn, more oats, oil meal and roots. Give 5 drops fluid extract nux vomica at a dose three times a day.

Nodular Disease.—Some time ago one of my sheep had a gathering under her jaw which was soft and flabby. I opened this two or three times and the discharge each time was clear like water. Her appetite was good; however, she kept getting thinner and in about two weeks died. I opened her and all I found was small bunches on the bowels. I have another sick ewe showing much the same symptoms and I would like to know how to treat her. R. M. C., Brown City, Mich.—The dropsical swelling in throat is a result of nodular disease, which is a parasitic bowel ailment. Give a teaspoonful of gasoline in 3 ozs. of milk one dose only. Also give a teaspoonful of ground gentian at a dose in feed two or three times a day. Salt her well and feed her plenty of nourishing food.

Some recent developments in the market for beef cattle have tended to create a feeling in stock feeding circles that the time has arrived, so long predicted, for better prices. It should be understood, however, that any improvement that has taken place in the Chicago and other western markets is due wholly to a marked curtailment in the receipts of cattle and not in the least to an enlarged call for beef, and as this is an undisputed fact, it behooves stock feeders everywhere to consider market conditions carefully and ship in their cattle conservatively. If stockmen are feeding a large number of cattle, it is better to market their holdings on different days, instead of having them all marketed in a single day. There is still danger of overstocking the market, particularly with cattle that are not fat enough to suit killers, and such cattle should be held back until properly finished.

The country is awakening to the great necessity of going into cattle breeding, or at least part of the farmers and stockmen are beginning to have some realization of this necessity. Many parts of the corn belt are taking up cattle breeding, having found that feeders were so scarce as to be obtainable only at practically prohibitory prices, and within a short time there has been a good deal doing at the Chicago stock yards in the line of filling numerous buying orders for cows to be used for breeding purposes. Many have been sold at \$4 to \$5 per 100 lbs., and the demand is still in evidence to a certain extent although spring work has delayed it considerably. For many years the vast region of country lying beyond the Missouri river has been called upon for supplying stock feeders throughout the corn belt states with liberal numbers of thin cattle for finishing off, but conditions have changed radically, and there is now such a scarcity that stock cattle when purchased cost not greatly below the prices of fat beefs. The Texas supply has become exhausted, the northwest has none for sale, and Denver is today the highest market in the country for stock cattle instead of being the lowest, as it used to be in past years. Now Texas is forced to resort to importing cows from Mexico to obtain calf supplies, and the country finds that cattle breeding is an absolute necessity if a beef famine is to be averted.



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

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SHORTHORNS and POLLED DURHAMS. Both sexes. **FOR SALE,**
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O. I. C.—Choice young sows bred for June farrow, also, booking orders for spring pigs either sex; pairs not akin. **Fred Nickel, R. No. 1, Monroe, Mich.**

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

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O. I. C.—March pigs with quality and best pedigree. Order now and get first choice. **C. J. THOMPSON, Rockford, Michigan.**

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HORTICULTURE

THE CARE OF SPRAY PUMPS.

I am convinced that not one person in ten that uses a spray pump takes proper care of it, and that more spray pumps are injured or ruined from this lack of care than from the wear they receive in service. Every person who sells spray pumps or repairs them finds that unless very good care is taken of a pump that after a season or two if the pump is left together over winter the action of the spray material and elements on the brass will so corrode the pump that it will be difficult to get it apart should anything go wrong inside the pump. I believe it is a good plan to take the spray pump apart once each year, preferably at the end of the season, if for no other reason than to get the parts separated occasionally so they will not set so tightly that if anything goes wrong inside the pump it will be possible to get into it with ordinary tools. Every owner of a spray pump should have a small pipe wrench, or better, a small and a medium-sized one for convenience in taking the pump apart, unscrewing hose, nozzles, etc.

During the season when the pump is in use it should be removed from the barrel each night or before leaving for any great length of time, and set in a pail of water. Then, without disconnecting the hose, pump a pail of clean water through the pump, hose, and nozzles. This will remove most of the spray liquid from the valves, hose and nozzles, and perhaps prevent trouble when the pump is again started. Before putting the pump away for the season a little oil may be added to the water and pumped through the pump, but the oil should not be pumped through the hose as oil rots rubber.

Another precaution that should be taken, if nothing else is done, is to remove the plunger from the cylinder. I have seen two pumps recently where this was not done and the pump not well cleaned, and the plunger became so solidly set in the cylinder that it was broken in getting it loose. It is also advisable to unscrew the lower part of the pump occasionally so as to get at the valves and valve cage. The valves may be working all right now, but if they should become stuck or clogged it might be difficult to get to them if this part of the pump had never been loosened. We have had a little experience in getting at the valves of an old pump recently. In one case, pounding and pipe wrenches were of no avail and we had to resort to heating the casting containing the outer thread which caused expansion and loosened the connection.

The packing in the plunger wears or dries out so that it does not work tightly enough in the cylinder and lets some liquid by it. If the operator is pumping at a good rate and does not get a good pressure, this is likely to be the trouble. Most pumps are made so the two parts of the plunger screw together and the ends of the plunger heads facing each other are flaring so that turning the upper plunger head to the right by means of the rod which connects it to the pump handle, while the lower plunger head is pushed to the bottom of the cylinder so it will not turn, brings the two plunger heads closer together and forces out the packing, thus making the plunger work more tightly. To remedy a loose plunger then, simply push the handle down as far as it will go, pull the pin which connects it to the plunger rod, raise the handle and turn the plunger rod to the right with a wrench until it turns hard. Should the packing become so worn that more is needed there is nothing better than a ball of candle wicking which has been dipped in melted tallow. This can be wound around the plunger until it is full, the two parts being screwed as far apart as they will go when this is done; then the plunger is inserted in the cylinder, pushed to the bottom, and the plunger rod turned to the right to tighten the packing.

When not in use the hose should be rolled into a coil not less than two feet in diameter, one or more strings tied around it to hold it together, and the coil laid on a flat surface, as the floor, never hung up. Hose should never be bent in a short space, or run over with a wagon, either will crack it. The hose will give out more quickly where it is bent most, as near the pump or rod. In this case it can be cut and the connections set back where the hose is good. If the hose bothers about pulling from the connections use two hose clamps instead of one, and keep them tight. All connections should be

kept tight when spraying. It should not be necessary for the operator to get his hands wet in spraying. In screwing the hose or nozzle to a rod one should put a wrench on the adjacent end of the rod and hold this so there will be no danger of twisting of the rod which extends through the bamboo. This caution is especially pertinent if the rod is aluminum, and in this case one must be careful not to drop the rod or strain it in any way as the aluminum is soft and breaks easily where the connection is screwed on at the ends of the pole. This connection should be clamped firmly to the end of the bamboo as well as screwed to the aluminum or brass rod.

Nozzles of the Vermorel type need occasional cleaning and oiling to make the disgorger work easily. The stuffing nut at the base of the spring will need tightening occasionally as the packing wears, to prevent leakage, and the caps may need removing occasionally to remove anything that is too large to be pushed through the opening with the disgorger. Nozzles of the Friend and Vapo type seldom become clogged, but should be taken apart occasionally and cleaned.

I have written thus at detail about these simple problems in caring for a spray pump upon the request of an owner of such a pump, and because I believe that these simple rules are not generally known by the amateur sprayer, or if known are not heeded.

Power pumps need much the same care. Every night during the spraying season we remove the suction hose from the tank and put it in a pail of clean water and start the engine. More water is poured into the pail if necessary until the water which comes through the nozzles is clear. During the operation the various stopcocks on the pump are opened to "blow them out" for a moment, and the lower stopcock which drains all liquid from the pump is opened at the close. The pump is then clean, even though the tank be filled with liquid, and the suction screen is left removed from the tank.

Calhoun Co. S. B. HARTMAN.

EASTERN APPLES OUR BEST EXPORTERS.

Reviewing the apple export trade of the year it seems that prices for barrel fruit of the east have been maintained at good figures, while quotations on boxes sent out of the country from the west have suffered declines. The explanation for this lies in a growing knowledge that fruit developed under the irrigation system lacks keeping qualities, due to the excess of water, while eastern fruit grown under normal hydrostatic conditions stands up much better. Unless the western men find that they can harden their coarse-grained and somewhat insipid apples by more careful regulation of the water supply, the increasing foreign demand is sure to take from eastern growers all the surplus of fancy fruit they can spare, with the result that orchardists east of the Mississippi will be induced by higher prices for fancy goods to give additional care to their trees and fruit, and farms devoted to apple culture must advance in value commensurate with the larger returns; all of which cannot be other than encouraging to the eastern producer. However, the men of Michigan and New York and other states are indebted to the men of Oregon and Washington and California for lessons learned of industry. The Pacific slope men with a less meritorious fruit than grows on the shores of lakes Michigan, Erie or Ontario, have for several years put the more favored growers in the background, by their superior packing, and admirable selling system. Whatever may be the future of the two great fruit producing sections as regards the foreign market, as well as our home fancy trade, we must acknowledge, silently or otherwise, our debt to western enterprise. By combining quality with advanced methods of growing, grading, packing and marketing we are most certain to gain back a reputation which would not have been lost but for our neglect and carelessness.

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The Lawrence Pub. Co.,
Detroit, Mich.

DETROIT, APRIL 29, 1911.

DON'T DO IT.

There are two or three "skyrocket" publishers of agricultural papers, with an outrageously inflated capitalization, working farmers to take stock in their enterprises. We deem it our duty to say to our subscribers that they will surely be sorry if they are misled into any of these investments. No standard, reliable publications are resorting to such nefarious methods to maintain their business.

We urgently advise our readers, if they have any money not needed in their farm operations, to put it into good savings banks and get 4 per cent interest, or invest it in good bonds or preferred stocks of some well-established, reputable manufacturing concern and let venturesome propositions alone.

CURRENT COMMENT.

On Friday of last week the bill providing for the approval of the reciprocity agreement with Canada passed the national house of representatives, as it had been conceded that it would do by all who were in touch with the situation. The final vote on the measure was 265 to 89. An analysis of the vote by which the measure was passed shows that 201 democrats voted for it, while 11 democrats deserted their party organization to vote against the bill. On the other hand, 78 republican members voted against the bill as against 64 who supported it. Eight of the 12 members of the Michigan delegation voted against the measure, namely, Reps. Dodds, Fordney, Hamilton, McLaughlin, McMorran, J. M. C. Smith, S. W. Smith and Wedemeyer. The four members from Michigan who voted for the measure were Reps. Loud, Doremus, Sweet and Young. Reps. Doremus and Sweet are the two democrats on the delegation, representing the Detroit and Grand Rapids districts. Congressman Loud is a republican, representing the tenth district of Michigan, which comprises 15 counties in the north-eastern part of the state. He is heavily interested in lumbering, and this interest is comparatively strong in his district. There are, however, a large and increasing number of farmers among his constituency to whom he may have difficulty in offering a satisfactory explanation of his attitude upon this question. Rep.

Young is also a republican, representing the 12th congressional district of Michigan, which includes the entire upper peninsula. While agriculture is rapidly increasing in importance in the upper peninsula of Michigan, the farmers are a minority in Rep. Young's constituency, which doubtless accounts for his support of the agreement.

But the farmers of Michigan have every reason for mutual congratulation on the strength of the opposition from the Michigan delegation. Several members of the delegation made speeches against the passage of the bill in the house, notably Rep. E. L. Hamilton, of the fourth congressional district. Mr. M. J. Lawrence, who was present and heard Mr. Hamilton's speech, writes that it was the strongest plea for the farmers of the country which he heard made on the floor of the house during the debate on this bill. No doubt Mr. Hamilton's constituency will properly appreciate his efforts in their behalf. In fact, we believe that the farmers of Michigan will be appreciative of the loyalty of every member who worked and voted in their interests in this crisis, a fact which should be most forcibly brought to the attention of the United States senators from Michigan, and with it the implied fact that the farmers of the state will not be forgetful if their interests are sacrificed in the unjust and unfair manner which this bill provides.

With the passage of the bill by the house, the proposition is now up to the senate. There has been considerable delay in the completion of the organization of that body, due to friction over committee assignments, and it is not probable that the reciprocity bill will be acted upon immediately. However, it must soon be taken up, and there is no time to be lost by those who would exert their influence to prevent its passage by that body. But there is still time to enter a strong and effective protest. Every reader who has not done so, should embrace this opportunity to add his influence to that which has already been exerted, by writing personal letters to Senators William Alden Smith and Charles E. Townsend, addressing them at Washington, D. C., urging them to oppose this unfair measure in the interest of their rural constituents. There is every prospect that the contest in the senate will be close and bitterly fought out, and the Michigan senators may have the deciding votes, which makes it all the more important that every interested reader act in his own interest as above suggested, at once. Do not procrastinate in the matter, but write them today.

The Progress of Tariff Tinkering.

It was freely predicted when President Taft assembled congress in special session that the democratic house would at once proceed to advance plans for the revision of various tariff schedules. This prediction has already been realized by the introduction of a free list bill which was reported to the house on April 13, together with the reciprocity bill which was passed last week. This free list bill provides for the placing on the free list of all agricultural implements; bagging for cotton, and all fabrics suitable for the making of bags or sacks for this purpose; hoop or band iron and baling wire; leather of all kinds and skins of cattle, including calf skins, boots and shoes and harness or saddlery in whole or in part manufactured; barbed wire and wire rope strands or rods and all wire suitable for fencing, including staples; fresh and cured meats and provisions; flour and milling products of all kinds; timber and lumber of all kinds except cabinet woods; sewing machines, and salt.

For purposes of political advantage this bill has been styled a "farmers' free list bill," and there is every likelihood that it will be passed by the house at an early date and go to the senate with the reciprocity measure. This bill has been put in ahead of the contemplated bill for the revision of the wool and cotton schedules, owing to a disagreement among the democratic leaders as to whether free wool should be made the basis of revision of this schedule, or simply a reduction of the duty and the placing of all duties on this class of goods on an ad valorem basis. This change in the program as outlined by the leaders is said to be due to the influence of the democratic members other than the old coterie of southern leaders, who were aware of the trouble that the proposed program would make in the states that would be most affected by the reciprocity

bill, the farmers being interested in wool growing as well as opposed to the reciprocity bill on account of their interest in general farm products. Thus the proposed revision of the wool schedule has been relegated to the background for the present, and the measure above referred to advanced, because it would be more popular among the farmers of the country and distract their attention from the proposed revision of the wool tariff, which has not been abandoned.

But the principal interest in this program at the present time is the effect which the throwing of these two bills into the senate hopper at practically the same time may have. It would appear that one effect would be to confuse the situation, particularly in view of the division of views which exists in both parties as to the policy which should be pursued with regard to tariff tinkering. If not probable, it is at least to be hoped that this shrewd move on the part of the democratic leaders will show the members of the senate the complications which will result through the passage of the reciprocity bill and thus compass the final defeat of that measure. The tendency shown by the majority party in the house to take up tariff matters without delay even sufficient for mature consideration gives point to our prediction that the passage of the Canadian reciprocity bill as advocated by the administration would be but the beginning, rather than the end of tariff tinkering, which might easily in the end endanger the industrial prosperity of the entire country as well as that of the farmers.

It is, of course, impossible to prevent maneuvering for partisan advantage when opposing parties are in control of the two houses of congress, but a reasonable view of the situation is that so important a thing to the welfare of the country as tariff tinkering should be gone at in a sane and deliberate manner, rather than in a hasty attempt to advance the political fortunes of any person or party, and thoughtful people would not take a serious view of such propositions, were they not dangerous to their future welfare, as is the case with the reciprocity agreement and the proposed tariff tinkering which the controlling faction of the house is pushing with the same undue haste as the administration pushed the reciprocity agreement to an immediate issue.

Really, the articles enumerated in this free list bill are of minor importance from the standpoint of revenue, it being claimed that the government revenues would be curtailed only about \$10,000,000 per annum through its operation, based on the customs receipts of the last fiscal year. Of course, the benefits would be correspondingly small to the farmers of the country, and would be small compensation for the hardship which would be imposed on them by Canadian reciprocity. It is, of course, improbable that this bill will become a law. The real danger in the situation is that when the tariff doctors disagree, as they are conceded to do in both parties, the effects may be disastrous to the patient, which in this case is the people.

Wool Prices and Prospects.

During the past week The Farmer has received a number of inquiries from subscribers asking for an opinion as to whether it would be the part of wisdom to sell this year's clip of wool at the prices now offered or hold it for a possible advance. As stated in a review of the situation published in these columns last week, no one can do better than guess what the future will bring forth in the wool trade, owing to the possible action of congress in revising schedule K of the tariff law, which is the wool schedule. However, it seems probable, to one who has studied the conditions which exist at Washington, that decisive action by congress in this matter will go over at least until the regular session of congress next winter. While, as stated in the comment above referred to, the democratic leaders in congress have shown their intention to push a bill through the house providing for a revision of the wool schedule, it seems improbable that sufficient support could be secured in the senate for such a measure to pass it at the special session, especially as the administration favors deferring its revision until the tariff board is ready to report on this question, into which it is now making an exhaustive inquiry. Then, too, the wool growers of the country will undoubtedly do all in their power to prevent early action in the matter, as evidenced by the action of the National Standard Delaine

Sheep Breeders' Association, which is noted in another column of this issue.

If this prediction proves to be correct, the usual season for marketing the season's wool clip will have passed before this matter is finally disposed of, so that the wool market may become settled after its adjustment to the new conditions. But just so long as the outcome remains in doubt, there is little improvement to be expected. Local buyers will be afraid to speculate in wool, and will insist on buying it on a basis of the present conservative market conditions if at all, which means that the wool grower simply has the choice of selling his wool at present quotations, or holding it over until this whole matter is finally settled. If the settlement should prove in the end to be a compromise such as was suggested would be probable in the comment above referred to, this would probably be profitable, provided the grower does not especially need the money which the wool will bring and has a suitable place in which to hold it. On the other hand, if our guess should happen to be a poor one, there might be nothing made in the speculation, although it is not probable that a loss would be suffered, since the present market is a timid one in the making of which the worst phase of the outlook is given full consideration.

Now as to what the market really is, we have gathered from various sources information that from 17 to 18 cents per pound is being offered for the better Michigan fleece wools in some sections of the state, while in other localities fairly good wools have been bought at as low as 14 cents per pound.

The Michigan Wool Dealers' Association held a meeting at Lansing last week to discuss market conditions, and while no attempt is made by this association to fix prices at which its members will buy wool, representatives of the big eastern houses were present, and discussed the situation from their standpoint, and the consensus of opinion among the Michigan buyers interviewed by The Farmer seemed to be that 17 cents per pound was as high a price as the present market would warrant them in paying for Michigan wools of the better class, although we know of 18 cents having been bid as above noted, and in Ohio some fleeces have changed hands at as high as 20 cents per pound, although the trading at that figure is said to have been very limited and Ohio wools generally command a slight premium over the Michigan product. Of course, eastern market conditions may change as the season advances providing sufficient wool does not come forward at current quotations to supply the immediate demand for the making of goods that have been ordered, as foreign wools can not be brought in to compete with the domestic product at present prices, but this is a factor which can not be determined in advance. Then local dealers or large speculators may gain confidence in the situation and buy on a speculative basis, and thus bring support to the market, but it is not likely that this speculative factor will be an important one in the wool market this season.

Again summing the situation up, we can only repeat that any prediction as to the probable future of the market would be but a guess, but when the disturbing factors which are operating to depress it at the present time are taken into consideration, it seems to be a fairly safe guess that there is little if any risk to run in holding wool where the grower is so situated as to make this course practicable.

Reports of wool sales in Boston last week include 50,000 lbs. of Michigan quarter-blood at a reported price of 23½ cents and another lot of 40,000 lbs. of the same grade at 23 cents, while other sales aggregating 150,000 lbs. of Michigan three-eighths blood are reported at 22½ cents per pound. Sales of Michigan washed delaine were reported at 30 cents, while washed delaine was sold at 25 cents. We will endeavor to provide our readers with the most accurate quotations obtainable from week to week, but can give them no more specific advice regarding the probable future trend of the market than is contained above.

A review of the work of the legislature, which adjourned on April 19, does not show that much legislation of general importance was enacted. Among the more important of the measures enacted were the following:

A bill extending the powers of the State Tax Commission giving that board the right to review assessments of property

anywhere in the state on its own initiative.

A bill creating a board of three special commissioners to investigate the working and application of the tax system in vogue in this state and to recommend plans for its betterment to the next legislature.

A bill repealing the mortgage tax law substituting a low recording fee in lieu of the present method of taxation.

A bill providing for the taxing of vessel property on a specific instead of an ad valorem basis.

A bill making telephone companies common carriers of messages and requiring them to exchange messages over each others lines where two or more companies operate in one town.

A bill providing needed appropriations for the working of convicts on state account in the two state prisons.

A bill providing for a two-cent per mile railroad fare in the upper peninsula.

A bill providing for an appropriation of \$10,000 for the care of those dependent upon convicts confined in the state penal institutions.

A bill creating a state fire marshal bureau, with a view to decreasing the cost of insurance.

Among the important measures which were before the legislature but were not passed are the following:

Bills providing for the initiative, referendum and recall.

A bill to impose a tonnage tax on the output of copper and iron mines.

A bill providing for a central board of control for state penal and charitable institutions.

A bill to make the minor municipalities the unit for the application of local option.

A woman's suffrage bill.

A bill prepared by the state sportsmen's association providing for the licensing of hunters.

Of course, a great many general laws were enacted, but those mentioned are among the more important of those passed and considered which are of interest to the rural residents of the state. Of those passed probably the bills relating to taxation are the most important to the farmers of the state, in view of the claim made by the representatives of the railroads that the farm and other properties of the state are now assessed at much less than their cash value. This probably means a move for the passage of tax legislation by the next legislature which will increase the burden of taxation upon the other properties of the state and thus decrease the rate applied to the railroad and other corporate properties if the influences at work upon this proposition can bring it about. However, an impartial investigation of the whole taxation problem by a competent commission can do no harm, and may provide more accurate information for the guidance of the future lawmakers of the state than their predecessors have had. What the effect of granting a greater measure of power to the State Tax Commission will be, only time will tell. If that power is used in an equitable manner there can be no serious objection to it. If, on the other hand, it is used in as unpouler a manner as the similar power which was enjoyed by the commission when that body was first created in our state it will probably be taken from them again.

The defeat of the initiative, referendum and recall propositions is a sore disappointment to many who style themselves progressives, but is not taken as a serious matter by others who feel that our elective machinery is sufficiently cumbersome and expensive as it is. But one result of the defeat of these measures and the impending consideration of tax reform legislation, so called, should be to make the people of the state, and particularly the farmers, especially careful in the selection of men to represent them in the next legislature. They have full control of this situation through the primary elections if they will but exercise their privilege in this direction intelligently and with some degree of unanimity.

The report of the senate committee appointed to investigate the state fair was a disappointment. It contains nothing of a helpful nature, either in the way of enlightenment as to the conduct of the state fair, the expenditure of moneys appropriated by the legislature, or the best methods to be followed in bringing about the desirable end of making it a state fair in fact as it now is in name, the desirability of which has been brought to

the attention of our readers in these columns and is conceded by the committee in their report. In view of the nature of the report we can do no more than to give it publicity and let our readers draw their own conclusions, as the management of the fair contends that the report is a vindication or endorsement of their work, while those who are not in sympathy with the present management point out that the language of the report implies that there is ground for a more extensive inquiry. The report follows:

Your committee was elected on March 15, 1911, leaving a very brief time within which to make any investigation. However, we have made a preliminary investigation, but feel that the subject is of so great importance to the agricultural and industrial enterprises of this state that the subject demands a more thorough and exhaustive consideration.

From the investigation so far made we are unanimously of the opinion that no fair under the name Michigan State Fair should be conducted unless the state, of Michigan has the supervision of the same or has a representation in its management.

We believe that ultimately the state should own and manage its own fair, but we are unable to recommend the present adoption of such a procedure.

We examined the grounds and buildings of the State Fair association, and found the same admirably suitable to the purposes of agricultural expositions, the ground work and possibilities of an institution which would be a credit to the state. We informally interviewed the directors and management, and examined the books of the association, and also procured the attendance of several witnesses who communicated information regarding the affairs and management of the State Fair association.

During the past eight years the state has contributed to the State Agricultural Society \$40,000. It has been our aim and endeavor and we have striven to ascertain and report as to the expenditure of such contributions, and also as to the business management of the so-called state fair in the past, but in the time and opportunity given us we have only been able to lay a foundation and perfect plans for the complete investigation thereof, and upon such expenditures and the business management of the so-called state fairs in the past your committee is not yet prepared to report. But we have secured advice and information which we deem sufficient to warrant a thorough investigation and complete report. Such an investigation and report, however, cannot be made during the present session. Therefore, we, as a committee, recommend that it be continued, authorized and empowered to make such an investigation and report at the next session of the legislature or at any special session that may be called, or to the governor at a stated time as your honorable body may direct.

HAPPENINGS OF THE WEEK.

National.

The war department proposes that the United States war ships make a cruise in the Baltic Sea. Russia is now considering the proposal.

While digging a sewer through the streets of Montecello, N. Y., a vein of copper was discovered. About a century ago a hunter discovered a vein of the metal a short distance from the city, marked the place and went away, but a snowstorm obliterated the marks, preventing its being again located.

A school is being organized at Hartford, Conn., to train missionaries for work in foreign fields.

It is asserted that white pine trees imported from Germany and France are infected with the disease known as "blister rust."

Blue laws were revived on Sunday in Jackson. Sheriff Wood declares that they will continue to be enforced during his term of office.

A strike is on in Grand Rapids among the furniture employees. Between 6,000 and 7,000 men are said to be out.

The steamers John Lambert and North Lake collided near Lime Island in an ice channel, Sunday. The former boat was compelled to "lay by" for repairs.

The Greenville high school was partly burned Sunday, causing a loss estimated from \$15,000 to \$20,000.

The report of the Pullman Car Company to the interstate commerce commission shows the company to have earned \$33,334,073 the past year. The company started fifty years ago with a capital of \$1,250,000 and has never sold new stock. Stock dividends have been granted until the capitalization now stands at \$120,000,000.

The cathedral of St. John the Divine was dedicated last week at Morningside Heights, N. Y. This structure is said to be the greatest church in America, having required 20 years in its building and cost upward of \$10,000,000.

A congressional committee is investigating the request of Pittsburg to establish a canal connecting the Ohio river with the lakes at Ashtabula.

Mrs. M. T. Scott has been elected president of the American Daughters of the Revolution after a spirited contest at the Starling revelations were made by Ortie McManigal, a prisoner in Chicago, by confessing to extended dynamiting operations by himself and other parties in different parts of the country in which 112 lives were lost and \$3,500,000 worth of property was destroyed. He is being held as one of the defendants in the action brought by the state for the blowing up of the Los Angeles Times building. (Continued on page 503).

Makes a Good Breakfast Better—

To have some

Post Toasties

with cream or milk.

For a pleasing change,
sprinkle Post Toasties
over fresh or stewed fruit,
then add cream and you
have a small feast.

"The Memory Lingers"

Postum Cereal Co., Ltd.,
Battle Creek, Mich.

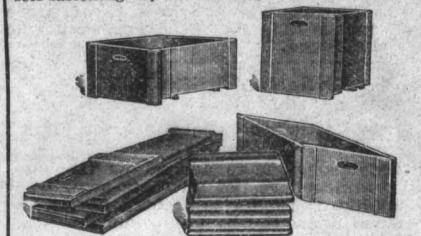
CHOICE SEED BARLEY

Corn and Potatoes, Fertilizers, Drills
and Planters, Cream Separators, Gasoline
Engines, Motor Cycles, etc.
E. H. Hutchins, Box 108, Clayton, Lenawee County, Mich.

PIT AND PITLESS SCALES
CHICAGO SCALE CO.
ORGANIZED 1863
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CHICAGO, ILL.
ALL SCALES
WARRANTED
WRITE FOR PRICES
Family, Portable and Dormant Scales, Saws,
Sewing Machines, Engines and Trucks.

To Farmers and Fruit Growers

The Hinge-Corner, Collapsible Box or Crate
in the form of a market box or otherwise as
desired, with loose bottom and no cover, or with
self-fastening top and bottom.



These boxes or crates can be stored like
shooks when not in use and can be carted
home from the market or to the field for packing
produce in the same knocked-down shape and
can be set up for packing on the ground in a
moment without either nail or hammer.
The strength, safety and convenience of these
boxes or crates is without question. Many are
now being used in the South for peach and
vegetable crates, and this use is constantly
increasing.

Small trial orders will be gladly furnished.
Write for literature and particulars to
THE CLEVELAND BOX CO.
723 Stone's Levee, Cleveland, Ohio.

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Prosperity Smiles on
the Industrious

Best soil, best water, close mar-
kets, railroads, schools, churches and
the same crops you've always known
grow better and produce more than
you have ever supposed was possible.
No dry farming, no irrigation, no
blizzards.

Write now for full information.
Country filling up fast.

Secretary, Central Alberta
Development League, Box 58

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LOGS WANTED—Walnut, Oak
and Elm.
GEORGE I. MCCLURE, Detroit, Michigan.

Why rent?
Own your own farm.
Nothing down—9 years to pay.
Don't give
up the best of
your crops to a landlord.

Haven't the money to buy!
You don't need money.
Here is a wonderful opportunity.
The Panhandle of Texas needs settlers.

It is the country along the Santa Fe,
in the northwestern part of Texas.

The land is level prairie. It is the
original residual soil—deep, rich and
fertile. For years it furnished the finest
pasture. Now it is too valuable for
range purposes. The owners are selling
it for general farming.

I want to tell you about the oppor-
tunities for settlers on these Panhandle
lands. (The Santa Fe has no land to
sell.)

I know one owner who will sell you
a farm for only \$20 an acre. You
don't have to pay a cent for two years.
After that you pay one-seventh each
year, with interest at 6 per cent from
date of purchase.

But you must live on and cultivate
the soil.

Have you ever heard of a proposition
like that?

Another proposition, at the same
price, requires \$2 an acre down, the
balance in ten equal payments, with in-
terest at only 6 per cent.

These are but two of the many op-
portunities open to real homeseekers in
the Panhandle.

Owners of these lands will not sell to
speculators. The land must go to ac-
tual settlers. They want to see the
country built up. They want the crops
coming into their towns and the trade
of prosperous farmers who are owners
of the land they farm.

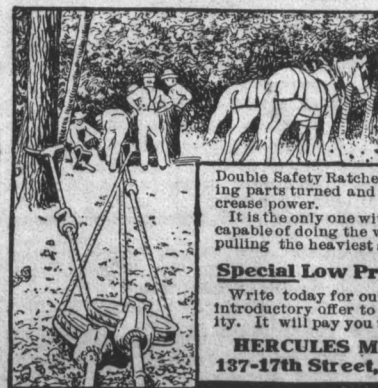
The Santa Fe, too, is anxious to see
the country developed. It wants to
haul the people and their goods and
products.

The country is in splendid condition
this spring. Nearly 3 inches of rain in
February. Everything ready for you.

Let me send you our folder, "The
Panhandle and South Plains." It tells
all about this country—its soil, cli-
mate, rainfall, water supply and crops.
Let me put you in touch with the men
who own the land. Let me tell you
about the opportunity the Santa Fe
affords twice a month to go and see this
land at reduced rates.

Don't wait. Make the break.
Write me to-night, if only a postal.
You will be glad.

C. L. SEAGRAVES, Gen. Colonization Agt.,
A. T. & S. F. Ry.,
2213 Railway Exchange, Chicago.



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Puller**
All Steel—400% Stronger—Guaranteed 3 yrs.
30 DAYS' FREE TRIAL

Send for our Hercules stump puller and pull your stumps
for 30 days at our expense. Then if you are not more than
satisfied send it back. The Hercules is 400% stronger than
any other puller; it is the only one good enough to ab-
solutely guarantee for 3 years—the only one with all bearings and work-
ing parts turned and machines to reduce friction and in-
crease power.

It is the only one with triple power attachments—
capable of doing the work of two ordinary pullers—
pulling the heaviest stumps or trees with ease.

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GRANGE

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

THE MAY PROGRAMS.

State Lecturer's Suggestions for First Meeting.

"Birds' songs have around us thrown
An atmosphere not all their own,
But like the favorite scented flower,
Recall anew the by-gone hour."
Talk, "Spring birds I have seen."
Recitation.
Talk, "Spring flowers I have seen."
Recitation.
Alfalfa growing.
Reading, "The bright girl becomes the
dull woman," followed by discussion of
same.
The power of responsibility in the mak-
ing of a man.
Music and recitations, in charge of
Flora.

VARIED DIVERSIONS FOR YOUNG PEOPLE.—I.

Social activity is as natural to boys and girls in their teens as physical activity is to babes in arms. This being true, isn't it strange that sometimes older people, and even entire Granges, attempt to repress or discountenance such God-given instincts?

In the whole wide realm of social need and life, officers and other leaders in Granges have a rich field for usefulness. It is well known that the dance question has torn asunder more rural organizations than any other one thing. And these dissensions have almost invariably arisen because the inherent liking of young people for activity, socially, was frowned upon instead of encouraged to express itself in a wholesome atmosphere. If they would dance, the elder people ostracized themselves and held aloof from all mention of the parties. In many cases where dancing was prohibited, nothing else was



A Granger Laddie, Donald Robertson, of Fremont, when he sings "My Heart's in the Highlands."

ever attempted as a "counter irritant" which would in any way tend to stimulate the social life of the young people. Perhaps, to dance was the only recreation that suggested itself to the inexperienced young people. Nobody led them into other social activities. Much less did anyone suggest that dancing parties might be conducted in a healthy social atmosphere, within proper hours, without necessary moral contamination.

However, leaving the dance question wholly out of mind, there is a wide, attractive field in which youthful energy may delight to express itself—a field which our Granges have left uncultivated for the most part. This is the field of acting assumed roles—of dramatics in lesser form. The laddie who simply "dresses the part" of his Highland ancestor, while he sings some sweet Scotch air, introduces his perhaps staid Grange brothers into a new world of vivacious, fascinating entertainment, full of endless variety, information and development for

all concerned. When our officers have eyes to see the far-reaching possibilities in this direction they will make capital of the hint and enlist young people in illustrative presentation of songs, stories, history, art and poetry. Charades, tableaux, acted proverbs, illustrated readings, motion songs, as well as the usual simple plays, are bits of action that attractively exercise the spirits of youth. And why? Because such demonstrations call for the play of imagination, and love of the picturesque and venturesome; but, even more important, they demand of the young people a certain responsibility to get them up and maintain the parts. All of these features come natural to young people; they are "in their element" when assuming responsibility, when indulging in imagination, when dwelling upon the beautiful and piquant side of life.

In the position of possible leader in the social life of its neighborhood, why does a Grange ever fail to act upon such fundamental facts in building up and re-directing the bubbling, energetic, wide-awake young life through methods which will develop strength, purity and character? But more of this another time.

JENNIE BUELL.

AMONG THE LIVE GRANGES.

Harmony Grange, of Charlevoix Co., recently closed its membership contest, the score standing 190 to 130. This Grange is planning to capture first prize in the Grange exhibit at the county fair the coming fall, having already appointed a committee to have charge of the preparation of the exhibit.

Grange Day at County Fair.—The proposition to have a "Grange" day at the Berrien county fair the coming autumn met with the approval of the more than 200 Patrons who recently attended the meeting of Berrien Pomona held with Pearl Grange. A committee was accordingly appointed to confer with the officers of the fair association. Reports from the different Granges in the county showed a flourishing condition and a steady growth in membership, there having been an increase of 225 members in the last quarter in the county. Deputy Master McClure was present and responded to the topic, "Progress vs. Decadence." He declared that progress is the permanent life of the people and comes through evolution and revolution; that commercialism is decadence while sacrifice is progress, standing for the home, school and good government.

Boys and Girls' Corn Club.—Washtenaw Pomona, in co-operation with the county school commissioner, has organized a Boys and Girls' Corn Club and will have a corn contest at the close of the season. Boys and girls under 18 years of age and residing in the county may become members of the club and compete for the prizes offered on the payment of a 25-cent enrollment fee. Each contestant is required to grow one-eighth of an acre, which may be a part of the regular farm field or it may be separate. Fifteen prize ranging from \$10 down to \$1, are offered for the highest scoring exhibits. Special prizes are also offered for exhibits of foods prepared from corn; also for most complete exhibits of seeds from cultivated and wild plants, including an exhibit of soils. Granges contemplating the taking up of work of this nature this season should write Miss Jennie Buell, who is secretary of the contest committee, for full particulars.

Eaton Pomona.—About 75 Patrons attended the recent meeting of Eaton Co. Pomona with Eaton Rapids Grange at Eaton Rapids. Unfavorable weather kept down the attendance but most of the Granges of the county were represented. The morning session was devoted to reports from subordinate Granges which showed nearly all in a prosperous condition. The afternoon program opened with a paper entitled "Aims of the Lecturer," by Mrs. N. P. Hull. It contained many helpful suggestions for wide-awake lecturers and dwelt upon the fact that "lecturers are born and not made." "Potatoes" was the subject of an excellent talk by Hon. Jason Woodman, who showed what fertilizing, treating seed and spraying will do for this crop, stating that these modern methods had changed his yield from 100 bushels to 400 bushels per acre. State Master Hull discussed "Reciprocity," his position on this important matter being well known. He made a strong talk in opposition to the pending agreement, clearly demonstrating how it would work to the detriment of agriculture. "Spraying and Pruning Apple Orchards" was ably handled by C. M. Hunt and T. A. Farland, both of whom are practical, up-to-date orchardists who have thoroughly demonstrated to their own satisfaction that profit in orcharding is largely dependent upon intelligent pruning and spraying.

COMING EVENTS.

Pomona Meetings.

Antrim Co., at Bellaire, Saturday, April 29. Lecturers and workers' conference. State Lecturer present.
Hillsdale Co., with Mosherville Grange, Wednesday, May 3.
Lenawee Co., with South Dover Grange, Thursday, June 1. Lecturers' conference conducted by State Lecturer.
Eaton Co., with Needmore Grange, Wednesday, June 7.
Kent Co., with Thornapple Valley Grange, Wednesday, June 7. State speaker, Mrs. E. J. Creyts.

FARMERS' CLUBS

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—B. A. Holden, Wixom.
Vice-Pres., J. D. Leland, Corunna.
Secretary—Mrs. C. P. Johnson, Metamora.
Treasurer—Mrs. Lewis Sackett, Eckford.
Directors—A. R. Palmer, Jackson; Wm. H. Marks, Fair Haven; C. L. Wright, Caro; E. W. Woodruff, Blanchard; C. P. Johnson, Metamora; Patrick Harkerd, Munith.

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

Associational Motto.—

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

Associational Sentiment.—

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

THE CONSERVATION OF OUR BIRDS.

Paper read by Miss Emily Bennett at the annual meeting of Clinton County Association of Farmers' Clubs, held at St. Johns.

(Continued from last week.)

But to come to the strictly economic phase of this question—the relation of the bird to agriculture, horticulture and forest conservation—a cry is going up from farm, vineyard and orchard wherever bird-life and habits is rightly understood. It is proverbial that the way to a man's heart is through his stomach. Yet another authority has it that the way to his heart is through his pocket-book, and either case will bring Bob White close to his affections. The clear whistle of Bob White is one of the most cheery notes we have, though heard but rarely.

Thorough investigation has proved that the quail does no appreciable injury to crops of grain or fruit. The crop of the quail holds about a half ounce of weed seed and is filled twice a day. The chicks are fed almost wholly upon insects. The insects taken are the chinch bug, cutworm, cucumber beetle, weevil, armyworm and many bugs and caterpillars.

The crop of a bird killed as it rose from a potato patch was found to contain 75 potato bugs, and one variety of ground-beetle for which Bob White has a peculiar relish has sometimes destroyed whole crops of strawberries in southern sections, but it would not be well for Bob White to be caught in the strawberry patch. Insects are taken every month in the year amounting to about 15 per cent of its food. About 60 varieties of weed-seed are known to be eaten. In one stomach were found 5,000 seeds of green foxtail, and a bird taken in December had eaten about 10,000 pigweed seed. Stomachs are sometimes found crammed full of ragweed seed, and another point, Bob White is directly on the ground among the field crops.

No game is more generally known and liked. In 1810 these birds sold for 12 cents per dozen, in 1831 for 50 cents, and now for from \$3 to \$5. "The sooner the farmer realizes the value of Bob White and that the market hunter is a bird-extirminator, the better it will be."

The writer remembers a farmer who in times of deep snow always fed his quail, which became very tame, nesting about the house and grounds, but hunters would come with dogs and guns, driving the birds from the farm where they were forbidden to shoot them, to open territory when nearly all would be taken. Why not build a covert of pine boughs or corn-stalks in some out-of-the-way place and in severe weather throw out a few handfuls of screenings to tide the birds over till they can get to the fields again?

Sometimes whole flocks perish for want of a little care. There comes to mind the picture of a little frozen quail close cuddled two hardened, toil-worn hands as it is being brought in from a drift of snow where it had aimlessly flown to escape some real or fancied enemy in the night. Those same dear hands, when the farm implement could not be taken around the nest of killdeer or ground sparrow, would carefully lift and carry it to a place of safety, hoping the birds might resume their domestic duties. But this is digression. Soon will come the migratory birds from the south, and here is offered one of the most interesting themes for study. How the young birds in the fall, for it is they who lead in the flight south, follow the same route which has been pursued for hundreds of years, to the southern home. The warblers, some of the tiniest of our birds, fly across

the Gulf of Mexico in a single night, a distance of six or seven hundred miles. The golden plover goes 1,000 miles north of the Arctic Circle and after rearing its young among the barren rocks and ice, is back in Labrador in August. Soon it crosses Nova Scotia and takes to the sea, flying a distance of 2,400 miles with but one stop. Resting a few weeks in Brazil, it goes on to Argentine or Patagonia, starting back for the north in March, this time making the trip overland, flying a distance of 8,000 miles every year. The flying machine is still open to improvement.

The oriole family, the true oriole, the blackbird and the meadow lark are all eminently useful. The oriole nesting and foraging among the trees and foliage, the blackbird among the shrubs and the meadow-lark upon the ground, each serving in his special department. The oriole, with his beauty and his melody, is a general favorite. Thirty-four per cent of his food consists of caterpillars. Next in importance are beetles, chick beetles, whose larva, the wireworm, is too well known to need an introduction, leaf-beetles, striped cucumber beetles and several varieties of bugs. In the south he is most active in the destruction of the cotton boll weevil. Another important service is the destruction of scale lice and aphides, or plant lice, two of the most destructive insects known. In return for all this protective service he sometimes asks for a few cherries when wild fruit is not to be found, but 84 per cent of his food for the year is insects.

The conduct of the crow blackbird has not always been exemplary, but examination reveals that much remains to his credit. Following the plow the stomach of the blackbird is often found to be literally crammed with grubs, cutworms and other larvae and beetles, in sufficient numbers to entirely destroy the crop if left undisturbed. Seventeen corn weevil were found in one stomach and 30 grasshoppers in another. So, footing up the columns we shall find the balance on the credit side of the account for even the blackbird. The meadow lark feeds and nests upon the ground and as a destroyer of noxious insects has no peer.

(Continued next week.)

CLUB DISCUSSIONS.

Discuss Road Question.—The Wixom Farmers' Club were entertained April 12 by Mr. and Mrs. Frank Burch at their pleasant farm home near Milford. It was a stormy day, nevertheless about 60 people were there for dinner. Four new members joined the Club. The program consisted of music and recitations. The question box contained some good questions. The one receiving the most attention was the present road system, the opinion of the majority of the Club was that the roads were not as good as they should be for the amount of money expended on them.—Mrs. R. D. Stephens, Cor. Sec.

Discuss Fruit Question.—The April meeting of Ingham County Farmers' Club was held at Maple Row Farm with Mr. and Mrs. Alfred Allen and Mrs. D. C. Smith and was of unusual interest. The weather was good, the attendance good, those on the program there, all of which helped to make a good meeting. After the dinner and social hour, President Ives called the meeting to order and after the opening exercises a fine program was rendered. Mrs. R. J. Robb gave some facts about "The Home Fruit Garden." In part she said, in the production of fruit for the family, one should use discrimination in the selection of varieties and pay more attention to good flavor than fine looks. Fruit is not a luxury, but a necessity and has great medicinal value upon the system, and vegetables, too, aid digestion. She spoke of pruning, grafting and budding in a way that showed she had given the matter much study. Mrs. Chapin spoke of the value of small fruits for the family and really how little land would produce a succession if one was willing to give the time and attention necessary to keep the weeds out. B. L. Green having returned from his outing in Southern California, was called out and spoke briefly of the orange industry as he found it. He said he tried to absorb what knowledge he could of fruit growing and he surely convinced his hearers that he kept his eyes open. One of the enemies to an orange orchard were gophers, which would dig around the roots and in time kill the trees if not closely watched. The amount of work done there would astonish us and if we here in Michigan would put one-half to one-fourth the amount of work upon our orchards that they do there he believed we would have a better paying investment than they have. He described the handling of the orange crop, how they were all taken to the packing houses and after being brushed and sorted were weighed in the automatic weighing machines and that the number in a box varied from 300 down to 80. He told of the expense necessary to get them on the market; spoke of irrigation and how they fumigated for the San Jose scale and the high price of land, that they were developing the country upon eastern capital.

POULTRY

IN ANSWER TO INQUIRIES.

Leg Weakness in Chicks.

An Eaton Rapids subscriber reports her five-weeks-old chicks suffering from leg weakness. They eat heartily and appear well in every other way. The trouble appears to be in the joints. The use of artificial heat in brooding them has been discontinued but the chicks are being kept in an upstairs room.

When the joints in fowls' legs become swollen and feverish it is pretty safe to suspect rheumatism as the cause of the trouble, but rheumatism is not common in growing chicks. It is much more apt to attack aged fowls, and generally results from exposure to dampness or cold. It does not seem probable that these chicks suffer from rheumatism if the room in which they are kept is one to which a reasonable amount of sunlight can be admitted. It is more likely that the trouble comes from improper feeding—the feeding of too much starchy food and too little protein and mineral matter for the building of muscle and bone. Forced feeding of young chicks, even where a fairly well balanced ration is used, has been known to cause leg weakness. Failure to supply moisture, where artificially heated brooders are used, results in the floor becoming excessively hot and dry and has a tendency to bring on this trouble. While nothing is said regarding the food these chicks received, we venture the opinion it has been largely grain mash or crushed dry grain. To balance this and enable them to build bone and muscle they require an occasional allowance of meat scrap or granulated bone. Clover chaff and such green stuff as is now becoming available also furnish some bone-forming material. Skim-milk, likewise, is valuable for this purpose. If fully convinced, however, that the trouble is due to rheumatism, rub the joints well with carbolyzed vaseline, get them out into the sunlight during the day and keep them free from dampness and cold at night.

The Market for Duck Eggs.

R. E. H., Grand Ledge, Mich.:—Investigation discloses the fact that there is little or no demand for duck eggs in Detroit. Dealers here have endeavored to work up a market but without success, and practically all shipments of duck eggs received here are forwarded to eastern markets. Some are shipped to Cleveland where it is said they sell readily. We are not, however, able to give present quotations in that market. New York quotations are given regularly in leading produce journals. Before Easter duck eggs were selling in that market around 35c per doz., but declined last week to 25¢@28c. During March they sold at a range of 33¢@37c.

SECRETS OF SUCCESS IN BROODING CHICKS.

Cooping the hen with her chickens has been condemned as an evil by some who have written on the subject without much practical knowledge, and who have alleged that the "natural" plan of allowing her to wander at will with them is to be preferred. This notion is altogether fallacious. A brood placed with a hen properly cooped, with a moderate and fresh grass run, well sheltered if possible by a few shrubs and regularly supplied with suitable food, will thrive better and grow much faster than if left at liberty. It is a good thing to give the hen about an hour's liberty some convenient time during the day when the weather is fine—the afternoon is perhaps the best—and in her absence have the floor of the coop thoroughly cleaned. This does all parties good, without the evil of unrestricted liberty.

After the first day or two chopped egg and bread crumbs may be discontinued and the chicks placed upon a regular diet. For this nothing can surpass ground oats, the only objection being that it is almost too clammy, being so finely ground. This drawback can be easily removed by adding a little shorts or mid-dlings and Indian meal to impart a more crumbly character. Next to ground oats stands oatmeal, rather coarsely ground and mixed with about one-third of barley meal. The addition of the latter is rather important, oatmeal alone being rather too dry. Oatmeal, however, is perhaps too expensive for ordinary market chickens, and every purpose of good and rapid growth may be obtained by feeding on a

mixture of equal parts shorts or mid-dlings and barley meal.

For a little time at least the food should be mixed with milk instead of water, and a little meat of some kind be given every day. For early chickens, new milk, warmed and given to drink early in the morning, has a wonderful effect in bringing them through chilly weather, and they become very fond of it, but neither this nor the solid food must be left so long as to become sour, which it will soon do. The longer such food and delicacies can be continued the better, but for market chickens it is often too expensive, and the plain food already described, with a grass run, will answer every purpose.

After a few days, at most, some kind of grain must be given in addition to the soft meal or the gizzard will not have healthy exercise. Even the first day some whole grits, chopped up with a knife, will be greatly relished, and the day following they may be given entire. For a week or two this may be varied with canary crushed hemp seed; but, as the little beaks become stronger, coarser grain may be substituted in the shape of cracked wheat or barley, bruised oats, or buckwheat. The last named is best liked by chickens of all the cheap grains, and they will eat it freely at a fortnight old. The last feed at night should consist of some kind of grain, and a little may also be left for the brood to partake in the morning before anyone is up to attend to them, for chicks are early risers and have good appetites. In summer they will be thoroughly awake at four o'clock and if fed even as early as six, have had two hours of hunger to endure, which is prejudicial to their growth and happiness.

This leads us to the one great secret of success in rearing fine chickens, which may be summed up thus: Give food so as to fully satisfy their appetites, and no more. This rule is broken if the chickens are left so long as to really hunger for their food; it is likewise broken if so much is given as to leave some after the brood is satisfied. Just so much is to be thrown down as will be fully cleared away, leaving none to be trodden into the ground. During the first week every two hours will do, then for a month every three hours, and after that four times daily, for the times of supply. But something will depend upon the season. In early spring and during the early stages of growth they need to be fed more frequently and also require better diet.

New York.

T. A. TEFFT.

A WINTER WITHOUT ROUP.

For many years I have fought roup with more or less success, but never failed to have a few cases. I have had open-front houses, warm roosting places and plenty of fresh air, but about Dec. 15 (just about the time I began feeding green bone) I would have at least a few mild cases, and every now and then a new one through the winter. Last December I found myself with some 20 odd hens and only a rather open barn for roosting and scratching pen. To make matters worse some of the hens began roosting in a large empty hay loft above; there were cracks, a broken window light, and altogether a fine prospect for roup. I had only these few fowls and could not fix the barn any different, so decided to get along as best I could. Strange to relate, not a single case of roup developed. They could not roost within ten feet of a crack or a nail hole, and there was abundant space for twice the number of fowls. I never had fowls show evidence of better health and vigor, or lay better. I believe that a large roosting room solves the problem for me; it is expensive but will pay in health and fertile eggs.

Recently the egg yield of the 20 hens dropped from 18 to 10, and no change of diet would bring them back, but spraying the poultry house twice per week with kerosene did the work. At the least falling off now I spray again lightly. Always making sure to remove the eggs, I spray the nests, excepting where hens are sitting; to those I apply insect powder. A fine flock of chicks, hatched the first week in April, are running about in the sunshine, picking the first green grass and growing like weeds. These pullets should be laying by October 1 and are the kind that fill the winter egg basket.

Hillsdale, Co.

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Taine's Les Origines de la France Contemporaine. Edited by J. F. L. Raschen, Professor of Modern Languages, Lafayette College. Cloth, 16mo, 272 pages, with introduction, notes, and vocabulary. Price 60 cents. American Book Company.



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Woe to the hen man whose neglect allows countless germs to endanger the lives of his fowls.

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is all metal. Does not harbor vermin as do the old wooden coops. Proof against rats and weasels and protects the chicks against rain and cold. Instantly cleaned. Raises happy, clean, healthy chicks, and is insurance against harm. Thorough ventilation. Folds flat when not in use. Top slides back giving instant access to entire coop. No stooping over to reach hen or chicks. Made of galvanized sheet metal throughout and pays for itself first season in chicks saved. Cheaper than wooden coops and lasts for years. Price single \$2.15; more than 3 coops \$1.90 each. Special prices on 2 dozen lots. Fully guaranteed in every way. Order from this ad or write for fuller information.

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raised in Southern Alabama, Western Florida and along the Gulf Coast, with shipping season commencing early in March, and commanding from \$2.00 to \$2.50 per crate at shipping point.

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3 Crops a Season From Same Land

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BABY REDS—Standard Bred at \$15 per 100; \$3 per 50; \$5 per 25. Show quality, rose or single comb, eggs 10c each. Other pens R. O. at \$1.75 per 26. Show quality Red turkeys, eggs 50c each. My Reds are guaranteed layers. Safe arrival guaranteed. Order now of W. T. FRENCH, Ludington, Michigan.

BUFF ORPINGTONS—Largest variety, best layers—incubator eggs 8c each. Eggs from 100 prize breeders 15c, up. Fine catalogue free. J. WILLARD, Linden, Michigan.

BARRED ROCK COCKERELS of the famous Blue Bell Strain, which has just won first prize at Chicago. From \$2 to \$15. Lake Ridge Farm, Levering, Mich.

FINE BARRED ROCK EGGS from sturdy pure-bred stock, good layers, \$1.00 for 15 eggs. Mrs. WILLIS HOUGH, Pinecrest Farm, Royal Oak, Mich.

THOROUGHBRED S. C. Brown Leghorn and R. C. R. I. Reds. Eggs \$1 per 15 or \$3 per 100. From prize winning stock, Brumm Bros., R. No. 5, Nashville, Mich.

S. C. BLACK MINORCA EGGS—Lay large white eggs and lots of them. \$1 for 13; \$3 for 50; \$5 for 100. E. A. BLACK, R. No. 6, Lakeview, Michigan.

White Leghorns—Rose or single comb cockerels. Rose Comb eggs \$1 to \$2 per 15. Ray J. Graham, R. F. D. No. 1, Flint, Mich.

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B. P. Rocks, R. I. Reds, W. Wyandottes and S. C. W. Leghorn eggs for sale, 15 for \$1; 26 for \$1.50; 50 for \$2.50. COLON C. LILLIE, Coopersville, Mich.

THOROUGHBRED S. C. BROWN LEGHORN EGGS at \$1.00 per 15 or \$5.00 per 100. Stock all sold. LEWIS T. OPPENLANDER, R. No. 4, Lansing, Mich.

EGGS: EGGS: EGGS—White & Buff Orpington, White & Barred Rocks, Black & White Minorcas, White & Buff Leghorns, Rose & Single Comb Red, Houdans & White Crested Elk Polish. H. H. King, Willis, Mich.

EGGMAKERS Strain S. C. Brown Leghorns. Eggs 98c per 15; \$1.48 per 30; \$3.93 per 100. WM. J. COOPER, Mt. Pleasant, Michigan.

Eggs—Light Brahma, White Wyandotte and Barred Rocks. \$1 a setting, \$1.50 for two settings. E. D. BISHOP, Route 38, Lake Odessa, Michigan.

R. C. Brown Leghorns—Kulps 242 egg strain, prize winners, farm range, select eggs \$1.00 15; \$3.00 50. S. W. HENSEL, Basil, Ohio.

R. C. B. Leghorn Cockerels—Kulp strain, the best in season. C. W. WAITE, Gobleville, Michigan.

SILVER, GOLDEN and WHITE WYANDOTTES. Eggs \$1.50 per 15; \$2.50 per 30. A few White Roosters left, circular free. C. W. BROWNING, Portland, Mich.

S. C. B. MINORCAS—Cockerels, Pullets and yearling hens for sale. Eggs \$2 to \$3 per setting of 15. R. W. MILLS, Saline, Michigan.

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FOR SALE—S. C. and R. C. Rhode Island Red Eggs. 15 for \$1.00; 50 for \$2.75; 100 for \$5. BUELL BROS., Ann Arbor, Mich.

WHITE WYANDOTTES—Useful and beautiful. The kind that weighs, lays and pays. A. FRANKLIN SMITH, Ann Arbor, Mich.

White Wyandotte and S. C. White Leghorns. Wyckoff, Moore strains, \$1.50 per 15 or \$5 per 100. WATERBURY, Clarkston, Mich.

Wyckoff and Blanchard Strain S. C. W. Leghorn. Farm raised. Trap nested, heavy winter layers. Eggs 100 \$5. 50 \$3. 15 \$1. F. E. BOSTEDOR, Eaton Rapids, Mich.

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YOU WRITE W. J. ROSS, Rochester, Michigan, for those beautiful sable and white Collie Puppies, of the finest breeding, and from stock workers.

MARKETS

DETROIT WHOLESALE MARKETS.

April 26, 1911.

Grains and Seeds.

Wheat.—Transactions have been upon upon a higher basis this past week than for several weeks back, the main strength to the market coming from Europe where the demand has been good and where competition between Liverpool and the markets on the continent have been keen to divert cargoes from foreign lands. The world's supply was decreased 3,456,000 bushels during the week, which is nearly two million bushels greater decrease than for last week and a million greater than for the same week a year ago. There was some call for cash wheat from millers. On the other hand, the weather has excelled itself in providing conditions for the growing plant, and everywhere reports are bearish to the trade so far as this country is concerned. Canada promises that 11,000,000 acres of the cereal will be grown by her this coming year. The spring wheat district is favored with splendid conditions for getting in the crop and the bulk of the seedling has been finished. One year ago the price for No. 2 red wheat was \$1.08 per bu. Quotations for the past week are:

	No. 2	No. 1	Red.	White.	May.	July.
Thursday	89	87 1/2	89 1/2	89 1/2	88 1/2	88 1/2
Friday	89	87 1/2	89 1/2	89 1/2	88 1/2	88 1/2
Saturday	89 1/2	88	89 1/2	89 1/2	88 1/2	88 1/2
Monday	89	87 1/2	89 1/2	89 1/2	88 1/2	88 1/2
Tuesday	88 1/2	87	89 1/2	89 1/2	88 1/2	88 1/2
Wednesday	88 1/2	87 1/2	89 1/2	89 1/2	88 1/2	88 1/2

Corn.—Quotations for corn have shown greater advances than those for wheat. The general position of the trade is bullish; however, the recent improvement in prices has brought forth holdings and boosted receipts but so far not to an extent that checks the advancing figures. The demand is good. One year ago the price for No. 3 corn was 60c per bu. Quotations for the past week are:

	No. 3	No. 3
	Corn.	Yellow.
Thursday	51 1/2	53 1/2
Friday	52 1/2	54
Saturday	53 1/2	55
Monday	53 1/2	55
Tuesday	54	55
Wednesday	54 1/2	55 1/2

Oats.—The tendency of the oat deal is to leave the other grains go as they will, for while wheat and corn were declining oats were steady and during the past week when the other grains were bullish, oats appeared to gain no enthusiasm from the situation and still remained steady. The volume of trade in this grain is small; however, the receipts and shipments by Chicago dealers run a little larger than for 1910. One year ago the price for standard oats was 44c per bu. Quotations for the week are:

	Standard	No. 3
		White.
Thursday	36 1/2	36
Friday	36 1/2	36
Saturday	36 1/2	36 1/2
Monday	36	35 1/2
Tuesday	36	35 1/2
Wednesday	36	35 1/2

Beans.—There is nothing new in this deal. No trading is being done and quotations are announced at the figures ruling last week. They are:

	Cash.	Oct.
Thursday	\$1.95	\$1.75
Friday	1.95	1.75
Saturday	1.95	1.75
Monday	1.95	1.75
Tuesday	1.95	1.75
Wednesday	1.95	1.80

Clover Seed.—Scarcity of seed caused an advance of 25c per bu. for clover seed on Monday. Alsike is steady. Quotations for the week are:

	Prime.	Alsike.
Thursday	\$8.75	\$8.75
Friday	8.75	8.75
Saturday	8.75	8.75
Monday	8.75	8.75
Tuesday	9.00	8.75
Wednesday	9.00	8.75

Rye.—The tone of this market is firm at the price ruling last week, 93c per bu. for No. 1.

Timothy Seed.—This product is active, with the price firm at \$5.25 per bu., the quotation reported a week ago.

Flour, Feed, Provisions, Etc.

Flour.—Market is dull with prices steady. Quotations are:

Clear	\$4.75
Straight	4.65
Patent Michigan	4.90
Ordinary Patent	4.90

Hay and Straw.—Hay and oat straw are higher. Rye straw is down. The movement shows limited offerings. Quotations on baled hay in car lots f. o. b. Detroit are: No. 1 timothy, \$18; No. 2 timothy, \$16@17; clover, mixed, \$15@16; rye straw, \$7; wheat and oat straw, \$6.50 per ton.

Feed.—Prices are steady with a week ago. Carlot prices on track are: Bran, \$27 per ton; coarse middlings, \$26; fine middlings, \$28; cracked corn, \$22; coarse corn meal, \$22; corn and oat chop, \$20 per ton.

Potatoes.—The arrival of new potatoes from Florida and Texas has given the trade in old potatoes a duller tone. There is no change in quotations. In car lots Michigan potatoes are selling at 45c per bushel.

Provisions.—Family pork, \$19@20; mess pork, \$16.50; medium clear, \$18.50@19.50; smoked hams, \$13@14c; brisquets, 9 1/2@10c; shoulders, 10 1/2c; picnic hams, 9 1/2c; bacon, 14 1/4@14 1/2c; pure lard in tiers, 8 3/4c; kettle rendered lard, 9 1/4c.

Hides.—No. 1 cured, 10c; No. 1 green, 8c; No. 1 cured bulls, 8 1/2c; No. 1 green bulls, 7c; No. 1 cured veal kip, 11c; No. 1 green veal kip, 10c; No. 1 cured mur-

rain, 9c; No. 1 green murrain, 8c; No. 1 cured calf, 15c; No. 1 green calf, 13 1/2c; No. 2 kip and calf, 1 1/2c off; No. 2 hides 1c off; No. 1 horsehides, \$3.75; No. 2 horsehides, \$2.75; sheepskins, depending on wool, 50c@51.50.

Dairy and Poultry Products.

Butter.—The large butter markets all report firmness and quote an advance in values which is due to the free movement of the product. There is a good supply. Dairies are steady. Quotations are: Extra creamery, 22c; firsts, do., 20c; dairy, 16c; packing stock, 13 1/2c per lb.

Eggs.—The operations of storage men, coupled with the usually urgent call from consumers, have lifted prices 1 1/2c the past week, and trading continues firm on the higher basis. The quotation now is 17c per dozen for current receipts, cases included.

Poultry.—No alterations are made in the prices here. The demand is fair and supplies ordinary. Quotations: Dressed—Turkeys, 16@20c; chickens, 16@17c; hens, 16@17c; ducks, 17@18c; geese, 12@14c per lb. Live—Spring chickens, 15@16c; hens, 15@16c; old roosters, 10c; turkeys, 15@18c; geese, 12@18c.

Cheese.—Michigan, old, 15@16c; Michigan, late, 13@14c. York state, old, 16c; do. late made, 14c; limburger, early, 14@15c; Swiss domestic block, 16@18c; cream brick, 15@16c.

Veal.—Market easier. Fancy, 7 1/2c; choice, 7c per lb.

Fruits and Vegetables.

Cranberries.—Steady. Quoted at \$4.75 per bu.

Cabbage.—Selling at \$1.75@2 per crate.

Onions.—Steady. Quoted at \$1.75@2 per bushel.

Apples.—The demand is active at advanced prices last week. Baldwins, \$6.50@7; Steel reds, \$6.50@7; ordinary grades, \$4.50@5 per bbl. Western apples, \$2.75@3 per box.

OTHER MARKETS.

Grand Rapids.

Eggs are 1/4c higher, local jobbers paying the rate 15 1/2c. Dairy butter is worth 18c; creamery, 21 1/2c. Dressed hogs are worth 7 1/2@8c. Prices paid for live poultry delivered are as follows: Fowls, 13c; spring chickens, 15c; broilers, 26c; turkeys, 19c; ducks, 16c; geese, 12c. The potato market fluctuates a little but on the whole is stronger than last week, the prices paid ranging from 35@45c. Farmers haven't much stock left and are likely to get good prices. Local dealers are strongly urging growers to change their seed, putting in Burbank's and Irish Cobblers in place of the Rurals, which have run out. Hay is scarce and high, timothy bringing \$21@22. Wheat is higher, the mills quoting at 85c.

Chicago.

Wheat.—No. 2 red, 90@90 1/2c; May, 89 1/2c; July, 87c per bu.

Corn.—No. 2, 52@52 1/2c; May, 51 1/2c; July, 52 1/4c per bu.

Oats.—No. 2 white, 32 1/2@33c; May, 31 1/2c; July, 31 1/2c.

Barley.—Malting grades, \$1@1.17 per bu; feeding, 70@90c.

Butter.—The firmer tone noted last week continues in evidence and has resulted in a slight improvement in prices of the better grades of creamery. Receipts continue liberal. Quotations are: Creameries, 14@22c; dairies, extra, 18c.

Eggs.—Buying for storage has begun, having been delayed longer than usual by the cold, backward spring and the possibility of legislation affecting cold storage products. This demand for storage purposes has had a bracing effect and all grades have advanced 2c per doz. since this time last week. Quotations are: Prime firsts, 17c; firsts, 16 1/2c per doz; at mark, cases included, 15@15 1/2c per dozen.

Potatoes.—Despite heavy receipts this market held firm throughout last week, prices at times showing a little improvement over the figures given one week ago. This week, however, the demand shows signs of waning and under continued liberal offerings the market is weakening, although thus far prices are even with last week's low mark. Choice to fancy are quoted at 56@58c per bu; fair to good, 52@55c.

Beans.—Most of the recent advance has been lost, all kinds being quoted lower; market steady under a quiet demand. Choice hand-picked beans quoted at \$2@2.05 per bu; prime, \$1.90@1.95; red kidneys, \$2.75@3 per bu.

Hay and Straw.—Market firm with all grades of hay 50c@51 higher. All kinds of straw show a similar advance. Quotations are: Choice timothy, \$20.50@21.50; No. 1 timothy, \$19@20; No. 2 do. and No. 1 mixed, \$17.50@18.50; No. 3 do. and No. 2 mixed, \$14@16; rye straw, \$8@9; oat straw, \$7@8; wheat straw, \$6@7 per ton.

New York.

Butter.—Market is higher and steady, with a fair movement. Creamery specials are quoted at 23@23 1/2c; extras, 22 1/2c.

Eggs.—Market is firm and higher on all lines. Fresh gathered extras, 19c; firsts, 18 1/4@18 1/2c; seconds, 16@16 1/2c; storage packed, firsts, 18 1/4@18 1/2c.

Poultry.—Dressed, easy. Fowls, 14@16c; turkeys, 15@20c.

Boston.

Wool.—The work of clearing bins for the new clip continues under rather steady market conditions. Sacrificing of prices is not extensive and appears to be to close out the old crop. Inquiries are for lots in all lines. The brokers are now getting their agents into the field who are contracting for both shorn and unshorn wool. As yet competition for new wool has not developed to an extent that will aid farmers, but the attention of the trade is turning to the growing states. The leading domestic quotations range as follows: Ohio and Pennsylvania fleeces—Delaine washed, 30c; XX, 28@29c; 1/2 blood combing, 26@27c; 3/4 blood

combing, 25@26c; 1/4 blood combing, 24@24 1/2c; fine unmerchantable, 23@24c; delaine unwashed, 24c; fine unwashed, 19c. Michigan, Wisconsin, and New York fleeces—Fine unwashed, 17@18c; delaine unwashed, 23c; 1/2 blood unwashed, 25c. Kentucky, Indiana and Missouri—3/4 blood, 25c; 1/4 blood, 23c.

Elgin.

Butter.—Market firm at 22c per lb., which is 1c above the quotation of last week. Output for the week, 536,600 lbs., as compared with 516,000 lbs. for the previous week.

THE LIVE STOCK MARKETS.

Buffalo.

April 24, 1911.

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

Receipts of stock here today as follows: Cattle, 160 cars; hogs, 16,800; sheep and lambs, 21,600; calves, 2,500.

With 160 cars of cattle on sale here today, and with 36,000 reported in Chicago, our market was slow and 10@15c lower than last week on all grades of steer cattle, and about steady on the female stuff and bulls.

We quote: Best 1,350 to 1,500-lb. steers \$6.10@6.35; good prime 1,200 to 1,300-lb. do., \$5.75@6; best 1,100 to 1,200-lb. shipping steers, \$5.40@5.75; medium butcher steers, 1,000 to 1,100 lbs., \$5.25@5.50; light butcher steers, \$4.75@5; best fat cows, \$4.35@5; fair to good do., \$3.40@4.15; common to medium do., \$3@3.50; trimmers, \$2.50@3; best fat heifers, \$5.25@5.75; good do., \$4.60@5; fair to good do., \$4@4.50; stock heifers, \$4.25@4.50; best feeding steers, dehorned, \$4.80@5; medium to good feeding steers, \$4.50@4.75; stockers, all grades, \$3.75@4; best bulls, \$5@5.25; bologna bulls, \$4@4.65; stock bulls, fair to good, \$3.50@4; best milkers and springers, \$5@6; good to best do., \$4.50@5; common to good do., \$2.50@3.50.

The hog market opened slow today, with all grades selling generally 15@20c lower than Saturday, being influenced by heavy receipts and lower prices in western markets. Trade ruled fairly active at the prices after the opening. The bulk of the good quality mixed and York weights sold at \$6.45, with a few of the selected yorkers and pigs at \$6.50. The heavier grades sold down to \$6.25@6.35; rough sows generally from \$5.25@5.30; stags from \$4.25@5. The hogs are fairly well cleaned up, except a few late arrivals; late prices ruling easy.

Lamb market opened active today; most of the choice handy clipped lambs selling at \$5.50@5.55; few at \$5.60; wool lambs, \$6.25@6.50, and very slow; about two loads choice light at \$6.60; heavy wools, \$5.50@5.65; few at \$5.75. Look for about steady prices the balance of the week unless receipts should be heavy. Sheep market was dull today; most of the choice ewes selling at \$3.50@3.75; wethers, \$3.85@4. Look for about steady prices on sheep balance of week.

We quote: Best handy clips, \$5.50@5.55; heavy clips, \$4.60@4.70; bucks, \$2.50@3.25; best wool lambs, \$6.25@6.50; heavy do., \$5.50@5.65; yearlings, \$4.25@4.50; wethers, \$3.85@4; ewes, \$3.50@3.75; cull sheep, \$1.50@3; veals, choice to extra, \$6.25@6.50; fair to good do., \$5.25@6; heavy calves, \$3.50@4.50.

Chicago.

April 24, 1911.

Cattle. Hogs. Sheep. Received today 26,000 56,000 18,000 Same day last year 23,203 17,847 14,948 Received last week 41,498 111,649 77,444 Same week last year 59,116 90,210 55,206

There does not appear to be any hope for the cattle market unless the receipts are decreased materially, and today's liberal supply made matters worse than ever. Following last week's break of 10@15c in beef steers, there was a further reduction of 15@25c all along the line, with but a small percentage going above \$6 and some choice heavy beefs going at \$6.25. Cattle of good grade sold around \$6, and butcher stock was off about 10c, following last week's bad close, some lots having sold then 25@40c lower than a week earlier. Hogs reached a still lower range of prices, sales being slow, and it was a question whether cattle or hogs were the duller. Hog prices broke 15@20c, following last week's break of 10@25c, with sales at \$5.70@6.20, and no large number selling near the top figures. The liberal receipts created a good deal of surprise, and sellers were greatly disappointed, fearing that a much lower scale of prices will be established unless marketing is greatly checked. The hogs were mainly choice in quality, with well matured lots greatly predominating. Sheep and lambs were steady, with a good demand, the supply being within reasonable bounds. Clipped consignments were salable as follows: Lambs, \$4@5.50; ewes, \$3.15@4; wethers, \$3.50@4.25; yearlings, \$4.25@4.75. Feeding and shearing lambs were wanted at \$5.50@5.75, with a few offered. They are wanted to graze during the summer, pasturage being uncommonly promising. Exporters are doing very little buying, and only one lot was purchased for export last week.

Cattle were poor sellers as a rule last week, due to the widespread consumption of beef rather than to large offerings of cattle, for the supply could not be called especially large. Only about 16,000 cattle arrived on Monday, usually the big day of the week, and in ordinary times this would bring about advances of 15@25c, but the rise only took in a moderate percentage of the offerings, and even these sold only about a dime higher. There was the usual meager Tuesday supply, and prices were steady, while on Wednesday, with receipts of only about 18,000 head, prices declined mostly 10@15c, while some lots declined all of 25c, butcher stock breaking 10@15c. A little better tone to trade was witnessed Thursday, with limited receipts, but the market was scarcely any higher. The

week's ruling prices were the lowest seen in a long time, with a large share of the sales of beef steers at \$5.50@6.45, the commoner lots fetching \$5@5.50 and the better class \$6.25@6.75. Medium lots sold at \$5.60@5.95 and good killers at \$6@6.45. Export steers were salable at \$5.60@6.10, and good to choice yearlings went at \$6@6.50. Cows and heifers had a fair sale at \$3.40@5.90, while cutters went at \$3@3.35, canners at \$2.35@2.95 and bulls at \$3.50@5.50. Eggs are unusually abundant and exceptionally cheap, and they are largely substituted for beef. Stockers and feeders had a restricted sale because of their dearthness, notwithstanding the declines that have taken place from time to time in all except the best of these cattle. Stockers sold at \$4@5.50 and feeders at \$5@5.85, while stock and feeder heifers were salable at \$3.45@4.65. Calves were marketed in large numbers, over 18,000 arriving Tuesday, known as "calf day," the larger part coming from dairy districts tributary to Chicago. Naturally, they went at a low range of prices, inferior heavy to choice light veal calves fetching \$3@6.50 per 100 lbs. Milk-ers and springers were in moderate demand at \$30@65 per head, the best sellers being choice Holstein cows, which were wanted to ship east.

Hogs have been getting in a bad way of late, with frequent reductions in prices, even when the offerings are much smaller in numbers than a short time ago. Recent sales were at the lowest prices recorded in nearly two years and a half, breaks of 25@30c taking place in two consecutive days, and the eastern shipping demand was about the only thing that checked the downward movement. Farmers continue to make most of their hogs good and fat, as corn is plentiful and cheap, and the hogs arriving here recently have been averaging 238 lbs. in weight, which is four pounds lighter than a few weeks ago, but is nine pounds heavier than a year ago and 27 lbs. heavier than two years ago. With a continued marked scarcity of light bacon hogs and pigs, these offerings are still market toppers constantly, while the extremely heavy packing hogs sell lowest of all. Corn planting will naturally check the marketing of hogs for the next few weeks, but next summer there will be lots of fall farrowed pigs ready to ship. Western packing since March 1 shows an increase of 1,060,000 hogs over a year ago, but western packing for the year ending March 1 was 3,406,729 less than a year earlier. The government report shows the number of brood sows in the country April 1 was estimated as 10 per cent larger than a year earlier.

Sheep and lambs have been quick to sell of late and slow to advance in value, and it has been evident that the market was not in a condition to stand liberal supplies. The receipts have come mainly shorn, although numerous Colorado consignments came with the wool on their backs. Lambs have been the favorites with most buyers, and prime lots that were fat and not heavy sold much the best. The shipping demand continued to center in fat handy-weight lambs, and heavy lambs, as well as heavy sheep, sold at a serious disadvantage. No considerable supplies of spring lambs are showing up in the market as yet.

Horses had a better outlet last week, there being a good attendance of out-of-town buyers, especially on the big days, and as country shippers did not glut the market, the recent decline in prices received a check. Scrubs sold as low as \$35 per head and choice drafters and drivers as high as \$250, while fancy horses of either class would bring \$275@300 or even higher, were any offered. Wagon horses were good sellers at \$150@200, these animals weighing 1,400 to 1,500 lbs., and farm horses were salable at \$140@265, mares adapted for breeding bringing the most money. Good chunks weighing up to 1,600 lbs. had a good sale at \$200@235, and matched pairs brought \$400@490, some of the choicer animals weighing as much as 1,700 lbs.

LIVE STOCK NOTES.

Mexico reports plenty of cattle and good grass. It is now expected that large supplies of cattle will be exported from Mexico to the United States this year, provided conditions continue favorable, the only present obstacle being the war in that republic.

Nearly all the hogs coming to market this year are fat, and even the pigs are fat, due to the abundance of cheap corn. This means a lot of trouble for the bacon curers, who look upon a bunch of lean pigs as a prize package.

The increasing demand for goat hides for tanning and making into shoes has created a large demand for goats, and much higher prices are paid than a few years ago. Nowhere near enough goats are raised in the United States to meet such requirements, and great numbers of tanned and raw goat skins are imported annually from Mexico at high prices, these skins being no better than those from Arizona, New Mexico and Texas goats.

Over in Canada, Ontario, farmers and stockmen are feeding about 40,000 head of western cattle, and farmers are making a better grade of beef than formerly. It is not many years since a big percentage of these Canadian cattle slaughtered for home consumption did not average in weight more than 1,000 lbs., but times changed much in this respect, and now the popular call is for cattle that will weigh from 1,200 to 1,300 lbs. This growing popularity of high-grade beef for Canadian consumption is seriously diminishing the available supply of beeves for the export trade.

A sale has been made of 86,000 acres of the L. X. ranch in Texas for more than \$500,000. The buyer will use the land as a developing place for the steers from his breeding ranch in another county.

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.

April 20, 1911.

Cattle.

Receipts, 1,161. Bulls 10@15c and all other grades 25c lower than last week and dull.

We quote: Best steers and heifers, \$5.65 @5.75; steers and heifers, 1,000 to 1,200, \$5.25@5.50; steers and heifers, 800 to 1,000, \$5@5.25; steers and heifers that are fat, 500 to 700, \$4.25@4.75; choice fat cows, \$4.50@4.65; good fat cows, \$4@4.25; common cows, \$3.25@3.50; canners, \$2.50@3.15; choice heavy bulls, \$4.75@4.80; fair to good bolognas, bulls, \$4.50; stock bulls, \$3.50@4.25; choice feeding steers, 800 to 1,000, \$4.75@5.25; fair feeding steers, 800 to 1,000, \$4@4.50; choice stockers, 500 to 700, \$4.25@4.75; fair stockers, 500 to 700, \$3.50@4; stock heifers, \$3.25@4; milkers, large, young, medium age, \$4@5.50; common milkers, \$2.50@3.50.

Roe Com. Co. sold Hely 2 cows av 820 at \$3; to Kull 15 steers av 1,001 at \$5.85; to Hammond, S. & Co. 22 do av 1,035 at \$5.50, 2 do av 960 at \$4.50.

Bishop, B. & H. sold Scheur 7 cows av 931 at \$3.50; to Hammond, S. & Co. 2 steers av 1,150 at \$5.85, 8 do av 856 at \$5.35, 1 do weighing 670 at \$5, 7 do av 1,011 at \$5.25, 11 do av 981 at \$5.40, 4 butchers av 860 at \$4.75, 4 do av 807 at \$5, 2 cows av 1,110 at \$4.25; to Sullivan P. Co. 8 do av 909 at \$4.50; to Ford Farming Co. 1 do weighing 860 at \$3.60, 3 do av 926 at \$3.50, 1 do weighing 950 at \$3.50, 4 do av 865 at \$3.50, 2 do av 765 at \$3.50, 1 do weighing 1,200 at \$4.50; to Newton B. Co. 2 steers av 720 at \$4.25; to Hammond, S. & Co. 5 do av 1,054 at \$5, 16 do av 971 at \$5.60, 6 do av 715 at \$5.25, 3 do av 1,173 at \$5.50, 15 do av 930 at \$5.30, 2 cows av 1,085 at \$4, 1 do weighing 1,060 at \$4.75, 3 do av 933 at \$3.75, 1 bull weighing 1,160 at \$4.50; to Reed 2 cows av 825 at \$3.75; to Breitenbeck 24 steers av 892 at \$5, 3 cows av 837 at \$4.15, 1 do weighing 670 at \$3.50; to Parker, W. & Co. 2 do av 1,000 at \$4.50, 3 bulls av 790 at \$4.75, 4 steers av 930 at \$5.50, 1 bull weighing 1,500 at \$5, 25 steers av 981 at \$5.60; to Kamman 15 do av 940 at \$5.10; to Thompson Bros. 1 bull weighing 750 at \$4; to Goose 3 cows av 933 at \$4.50; to Dan Sutton 17 feeders av 833 at \$5.25; to Regan 7 heifers av 508 at \$4.50; to Bresnahan 7 steers av 1,000 at \$5.25; to Regan 7 heifers av 647 at \$4.50; to Hammond, S. & Co. 3 cows av 1,000 at \$4.50, 2 steers av 1,110 at \$4; to Sullivan P. Co. 3 do av 1,180 at \$5.50; to Otto 23 feeders av 820 at \$5.25; to Newton B. Co. 13 do av 1,000 at \$5.35, 11 do av 843 at \$5.25, 23 do av 1,056 at \$5.25, 22 do av 1,072 at \$5.50.

Spicer & R. sold Kull 4 butchers av 757 at \$5, 1 bull weighing 1,450 at \$5, 1 heifer weighing 875 at \$5, 2 steers av 650 at \$4, 5 cows and bulls av 1,060 at \$4.75, 1 canner weighing 770 at \$2.50, 1 cow weighing 920 at \$4.50; to Reed 1 do weighing 920 at \$3.50, 2 do av 840 at \$3.60; to Prath 1 heifer weighing 400 at \$5.

Johnson sold Bresnahan 15 steers av 986 at \$5.60.

Downing sold same 2 heifers av 560 at \$4.75, 2 cows av 985 at \$3.50.

Street sold Kamman B. Co. 2 steers av 925 at \$5, 16 do av 1,058 at \$5.40.

Kendall sold same 26 steers av 1,036 at \$5.40.

Robb sold Newton B. Co. 2 cows av 1,570 at \$5, 18 butchers av 936 at \$5.25.

Kendall sold Breitenbeck 4 bulls av 1,012 at \$4.

Haley & M. sold Prath 1 heifer weighing 620 at \$5.40; to Newton B. Co. 15 steers av 920 at \$5.35; to Bresnahan 2 cows av 975 at \$3.75, 4 do av 782 at \$3.50; to Thompson Bros. 5 cows av 1,132 at \$4.25, 2 do av 995 at \$3.50; to Sullivan P. Co. 2 do av 1,220 at \$3.60.

Lowenstein sold Sullivan 8 cows av 1,060 at \$4.60, 4 do av 930 at \$3.25, 1 bull weighing 1,580 at \$4.50.

Veal Calves.

Receipts, 1,231. Market 25c lower than Wednesday; \$1@1.25 lower than last Thursday. Best, \$5.75@6; others, \$4@5.50; milch cows and springers steady.

Roe Com. Co. sold Street 47 av 135 at \$6, 9 av 140 at \$5.

Haley & M. sold Mich. B. Co. 16 av 125 at \$6.75; to Goose 10 av 112 at \$4, 4 av 145 at \$3.50; to McGuire 20 av 140 at \$6.25.

Spicer & R. sold Golden 10 av 130 at \$5; to Parker, W. & Co. 14 av 125 at \$6; to Goose 5 av 115 at \$5, 26 av 135 at \$5.50, 5 av 110 at \$5, 2 av 170 at \$4.50; to Street 7 av 140 at \$6.50, to Brown 76 av 133 at \$6; to McGuire 4 av 135 at \$6, 8 av 130 at \$6.50, 2 av 145 at \$6.25.

Bishop, B. & H. sold Sullivan P. Co. 2 av 120 at \$5.50; to Burnstine 20 av 145 at \$6; to Mich. B. Co. 11 av 130 at \$6.50; to Goose 6 av 135 at \$6; to Sullivan P. Co. 7 av 150 at \$6, 3 av 120 at \$5, 3 av 160 at \$6.25, 3 av 110 at \$5; to Parker, W. & Co. 16 av 140 at \$6.50, 3 av 95 at \$5, 4 av 140 at \$6.

Sheep and Lambs.

Receipts, 3,005. Wool lambs very dull and 15c lower than on Wednesday. Clips steady. Better clip all grades before sending to market hereafter.

Best wool lambs, \$6@6.10; fair to good wool lambs, \$5.50@5.75; light to clop common lambs, \$3.50@4; best clips, \$4.75@5; fair to good sheep, \$4@4.50; culs and common, \$2.50@3; clipped sheep, \$3.75@4.25.

Roe Com. Co. sold Barlage 36 lambs av 93 a. \$6.10, 16 sheep av 47 at \$4.50, 41 lambs av 75 at \$5.10; to Sullivan P. Co. 58 do av 70 at \$5.10.

Bishop, B. & H. sold Sullivan P. Co. 51 sheep av 70 at \$4; to Newton B. Co. 123 lambs av 75 at \$5.10; to Thompson Bros. 33 do av 90 at \$4.50, 30 sheep av 95 at \$4.50, 27 do av 100 at \$4.50, 33 lambs av 75 at \$5, 89 do av 75 at \$5, 40 sheep av 60 at \$4.25, 11 do av 70 at \$3.75; to Mich. B. Co. 99 lambs av 68 at \$6.50; to Bement 99 do av 70 at \$6.35, 122 do av 85 at \$4.90; to Street 11 do av 105 at \$5.50; to Mich. B. Co. 13 sheep av 100 at \$4, 44 lambs av 78 at \$5.25, 50 do av 80 at \$5.15; to Fitzpatrick Bros. 43 do av 77 at \$5, 2 sheep av 140 at \$3.50, 22 do av 68 at \$4; to Breitenbeck 5 do av 100 at \$4, 12 do av 77 at \$4.50, 20 do av 80 at \$3.25.

Spicer & R. sold Newton B. Co. 10 lambs av 67 at \$6.15; to Thompson Bros. 8 sheep av 70 at \$3.85; to Mich. B. Co. 34 lambs av 90 at \$5.25.

Haley & M. sold Street 34 lambs av 85 at \$5.25, 13 do av 75 at \$5.

Hogs.

Receipts, 6,575. Bidding 5@10c lower than last Thursday or this week Wednesday; none sold up to noon.

Range of prices: Light to good butchers, \$6.25; pigs, \$6.30; light yorkers, \$6.25; heavy, \$6.15.

Spicer & R. sold Hammond, S. & Co. 340 av 180 at \$6.25.

Haley & M. sold same 450 av 180 at \$6.25.

Sundry shippers sold same 709 av 175 at \$6.25.

Roe Com. Co. sold Sullivan P. Co. 350 av 190 at \$6.25, 86 av 180 at \$6.30.

Friday's Market.

April 21, 1911.

Cattle.

Receipts this week, 1,397; last week, 1,615. Market steady at Thursday's prices.

We quote: Best steers and heifers, \$5.65; steers and heifers, 1,000 to 1,200 lbs., \$5.25@5.50; steers and heifers, 800 to 1,000 lbs., \$5@5.25; steers and heifers that are fat, 500 to 700 lbs., \$4.25@4.85; choice fat cows, \$4.50@4.75; good fat cows, \$4.25; common cows, \$3.25@3.50; canners, \$2.50@3.15; choice heavy bulls, \$4.50@4.75; fair to good bologna bulls, \$4.25@4.50; stock bulls, \$3.50@4; choice feeding steers, 800 to 1,000 lbs., \$4.75@5.25; fair feeding steers, 800 to 1,000 lbs., \$4@4.50; choice stockers, 500 to 700 lbs., \$4.25@4.75; fair stockers, 500 to 700 lbs., \$3.50@4; stock heifers, \$3.25@3.75; milkers, large, young, medium age, \$4@5.50; common milkers, \$2.50@3.50.

Veal Calves.

Receipts this week, 1,577; last week, 2,032. Market steady at Thursday's prices; best, \$5.75@6; others, \$4@5. Milch cows and springers steady.

Sheep and Lambs.

Receipts this week, 3,158; last week, 4,205. Market steady at Thursday's prices. Run very light. Best wool lambs \$6.25; fair to good wool lambs, \$5.50@6; light to common clipped lambs, \$4@4.75; best clipped lambs, \$5@5.10; fair to good sheep, \$4@4.50; culs and common, \$2.25@3.

Hogs.

Receipts this week, 8,629; last week, 9,699. Market steady at Thursday's prices. Light to good butchers, \$6.25@6.30; pigs, \$6.30; light yorkers, \$6.30; heavy, \$6@6.15.

(Continued from page 499).

He, with others charged with the same crime, is being hurried to California to stand trial.

Foreign.

Moving picture views of rioting in Paris on April 12 have become valuable aids to the prosecution of the rioters, which is being conducted by the government.

It is reported that President Diaz has summoned General Reyes from Europe to aid in the settling of affairs in Mexico. Gen. Reyes was formerly war minister of the republic, and was the opposing candidate to Diaz in the last presidential campaign. For many months he has been living in Europe. An armistice has been signed between General Madero of the rebel forces and General Navarro, of the government, which provides that war operations be suspended for five days during which time motions to suspend operations will be considered by representatives of the two forces. The liberal attitude of President Diaz seems to be responsible for the present hopeful situation.

By plunging through a bridge and over a gorge a train on the Kowie line, of South Africa, crushed to death 32 persons.

Some uncertainty exists just now as to when the Canadian parliament will pass the reciprocity agreement since it lies in the power of the minority to force the issue onto the electorate.

Twenty-nine deaths from bubonic plague were reported from Amoy, Indo-China since the plague broke out a fortnight ago.

French troops are moving rapidly to reach Fez, Morocco, and relieve the inhabitants from the attack of the rebels who are surrounding the capital. In small engagements with the tribesmen the French troops have been successful.

The census of France shows a drift of population from the country to the cities. The population of Paris holds that city as third in population in the world, the figures as given are 2,846,986.

The English house of commons has taken up the discussion of the stringent veto measure which provides that when the lower house passes any measure, other than money bills, three times at successive sessions, that the measure will then become law should the house of commons so declare after the house of lords has rejected the same the third time.

CROP AND MARKET NOTES.

Sanilac Co., April 13.—So far April has not been favorable for anything but wet weather jobs. The last few days of March was real winter weather. Farmers are getting a little uneasy to start seeding, but as yet nothing has been done. Prospects seem to be favorable for fruit. Wheat that had a good top last fall looks well, considering the spring we have had. The lamb crop is doing well. Dairying is not paying very good dividends at the present. Small pigs are rather scarce. Old Sanilac still ranks with the dry counties. The prices paid for produce are: Wheat, 81c, oats, 30c; rye, 70c; potatoes, 30c per bu; hay, \$12 per ton; hogs, \$6.50 on foot; creamery butter, 19c; eggs, 14c.

Lapeer Co., April 22.—Weather cold. Snow squalls for the past few days. Ground too cold for wheat and meadows. Pastures do not grow very fast. Hardly any oats in yet. Some are plowing, while many are preparing for oats with cultivators and disk harrows. Will say that at this date last year some fields of oats were up, as some oats were put in about the middle of March. Some meadows have a poor promise at this date while others are looking fine. Farmers are keeping their eye on the indicator at Washington to see what President Taft and the democrat congress are going to do. We all thank Mr. Lawrence for his earnest efforts in behalf of the farmer while at Washington, using his influence against reciprocity. Hay is very scarce at present and brings a big price. On account of short pastures last fall farmers commenced feeding stock very early and it has proved to be a long feeding season in consequence and the winter supply is now practically exhausted.

LIVE STOCK NOTES.

Farmers throughout the newer portions of the west are opening many tracts of land for farming and stock raising, and so many of the former ranges are being cut up into moderate-sized farms that there has been an almost unprecedented demand this spring for wire for making fences. Great numbers of new farmers have decided to go into stock raising on a moderate scale, and fields are being fenced in great numbers. The result is that the manufacturers of fence wire have been doing an enormous business, and it was stated recently that the American Steel & Wire Company had every wire and nail plant in full operation. The wire mills of Chicago, Joliet, Cleveland and those in its Pittsburgh territory have been running full blast, and the smaller independent manufacturers have also been running to their utmost capacity.

Several of the railroad lines that bring live stock to the Chicago Stock Yards have been rendering unsatisfactory service for some time past, stock trains getting in greatly behind their schedule time, and this has resulted in great losses in numerous instances to stock shippers to that market, many consignments of stock arriving too late for the day's market. A few roads have given fine service, but the others appear to be short of cars and engines, and there was a meeting recently of the cattle and railroad interests to see what could be done to relieve the situation. The railroad officials expressed a desire to do what they could to make better time, but thus far no marked change in this respect is apparent.

Western range grasses make fat cattle, hogs and sheep, without the aid of corn. This fact was well demonstrated at the recent western stock shows, where fat stock of all classes was exhibited that never saw corn.

Thousands of range horses will be sold at public auction in Montana during the latter part of May, including mares in foal, mares with colts by their side, big draft geldings and small Indian ponies.

The downward course of the hog market has caused fears that the packers may repeat their bear tactics of 1908 and place prices at such a low level as to discourage farmers and cause them to largely cease breeding hogs for the market. The packers have extraordinary power in fixing hog prices, and this is especially the case when eastern shippers are small buyers of swine in Chicago and other western markets. It was the great fall in hog prices that brought about their later scarcity and the boom to \$11 per 100 lbs. last year.

Looking backward, it is shown that lambs have scored in the Chicago market higher top prices and bulk prices during every month since March, 1904, than have been paid in recent weeks.

Farmers in southern Michigan say that no year in the last decade has shown a better condition of winter wheat and meadows, the outlook for hay and grain being excellent. Many farmers from the high-priced farming regions of near-by states are locating in Michigan.

Reports from the northwestern ranges state that grass is in fine shape, and similar reports have been received from the ranges of southwestern Texas. Cattle shipments from down there will begin in May, and it is stated that San Antonio will ship about 50,000 head within a few months.

Not merely have the offerings of sheep and lambs in western markets this year been excessively large in numbers, but their weights have undergone marked gains, so that the pounds of mutton were further greatly augmented, for which cheap corn must be held responsible.

Late reports say that Texas is likely to be short on cattle and long on grass the remainder of this spring and the following summer. Rains have started the grass in fine shape and brought about an unprecedented demand for stocker and feeder cattle, thereby curtailing the probable movement of range stock to Oklahoma and northern pastures. The best informed men in that state believe that stock and breeding cattle will sell on a

very high basis for the next five years. In northern Texas strictly choice yearlings are bringing \$25@30 per head, and stock cows, with their calves thrown in, are selling in the Texas plains region at \$30@40 per head. The coast-bred yearlings of southwestern Texas, cattle of the most inferior kind that can be found, are selling rapidly at \$11@12.50 per head, their average weight being not over 500 lbs. Two and three-year-olds of the same class are selling for \$13@18. Many southern cattle grazers are casting longing eyes at Mexico, thinking the solution of the scarcity is to be found in bringing in stock cattle from that country. It is estimated that southern Texas will market between 200,000 and 250,000 cattle this spring and summer, shipments to be made chiefly during the months of April, May and June.

The southern states are awakening to the great importance of breeding hogs, as well as cattle and sheep. The Rock Island Railroad Company recently furnished free to the Agricultural College of the Louisiana State University a special train of eight cars in which to give lectures and practical demonstrations regarding corn and hog raising. The meetings were largely attended.

Reports come from the southwest that a conservative estimate of the number of southern Texas cattle to be taken to northern Texas and Oklahoma quarantine pastures this spring will not exceed 60 per cent of the number that went there a year ago. Cattlemen generally in the southwest are going to be long on grass and short on cattle.

CATALOG NOTICES.

Detroit Engine Works, Jefferson avenue, corner Bellevue, Detroit, Mich., send out a finely illustrated catalog of electric lighting plants and electrical supplies, combined with Detroit Kerosene Engines to make a complete outfit for lighting the home.

Michigan Steel Boat Company, Detroit, Mich., have just published a new and finely illustrated 36-page catalog describing their large line of steel boats for all purposes, including power launches as well as row boats, boats for all kinds of pleasure and sport.

"Detroit Boat Company, Detroit, Mich., the largest pleasure boat producers in the world," are sending out a handsomely illustrated 36-page catalog describing their big line of pleasure boats and launches, offering a great variety of designs and sizes with power to suit.

Detroit Engine Works, Detroit, Mich., have published a new 36-page catalog illustrating and describing their line of stationary engines which run on kerosene, as well as gasoline, alcohol, naphtha and distillate without change in equipment.

BOOK NOTICES.

Laboratory Manual in Biology. By Richard W. Sharpe, Instructor in Biology, De Witt Clinton High School, New York City. In this manual the 56 important problems of biology are solved; that is, the principles of biology are developed from the laboratory standpoint. It is a teacher's detailed directions put into print. Cloth, 12mo, 353 pages, illustrated. Price, 75 cents. American Book Co.

Scheffel's Ekkhard—Audifax and Hadumoth. Edited by Charles Hart Hand-schin, Ph. D., Professor of German, Miami University, and William F. Luebke, A. B., Assistant Professor of German, Miami University. Cloth, 16mo, 251 pages, with notes, exercises, and vocabulary. Price, 60 cents. American Book Company, Chicago.

Old Testament Narratives. Selected and edited by Edward Chauncey Baldwin, Assistant Professor of English Literature, University of Illinois. The annotations supply such explanations as are necessary for intelligent reading. The introduction gives a good general view of the Old Testament as a work of literature. At the end of the volume are critical comments, largely in the nature of literary comparisons with such English and American poetry as the pupil may reasonably be expected to know or to have heard of. Cloth, 16mo, with maps, 192 pages. Price, 20 cents. American Book Company.

Argumentation and Debate. By Joseph Villiers Denney, Professor of English in the Ohio State University; Carson S. Duncan, Assistant Professor of English in the Ohio State University; and Frank C. McKinney, of the New York Bar. This new book contains a brief discussion of fundamental principles, appropriate suggested exercises, and nearly 300 pages of masterpieces of complete debates on important questions which have agitated this country. Cloth, 12mo, 400 pages. Price, \$1.25. American Book Company.

Neighborhood Entertainments. By Renee B. Stern, of the Congressional Library. This 300-page volume is made up of a host of suggestions for increasing the sociability of country and village neighborhoods, with specific instructions for the formation and conduct of social clubs. Part one, divided into five chapters, deals with clubs, societies and social centers and part two, consisting of seven chapters, treats of entertainments of different character and for different seasons of the year. Price, 75 cents. Sturgis & Walton Company, New York.

Elements of Geology. By Elliot Black-welder, Associate Professor of Geology, University of Wisconsin, and Harlan H. Farrow, Associate Professor of General Geology and Geography, University of Chicago. The text of this elementary course is explanatory, seldom merely descriptive, and the student gains a knowledge not only of the salient facts in the history of the earth, but also of the methods by which those facts have been determined. Cloth, 12mo, 475 pages, with 485 illustrations and 16 full page colored typographical maps. Price, \$1.40. American Book Company.



WHICH IS THE REAL LOVE.

How often we hear the expression, "She loves her children so she can't bear to deny them a thing."

When I was a child and heard that remark I always thought with envy of the lucky children of such a woman. My mother didn't seem to be bothered a bit about denying me a great many things I wanted, and it seemed hard to think there were lucky children somewhere who only had to speak and get their wish. As I grew older, however, and thought over the things my mother refused me, I came to see that I was, after all, the lucky one. Late hours, dancing parties and beaux at 14 years of age, long dresses and my hair "done up" at the same age, these were a few of the privileges and pleasures forbidden me, and granted to many of my friends, whose mothers "loved them too much to deny them."

I have come to believe that such mothers really love themselves more than they do their children. They love themselves so much they can't endure the unpleasantness that may arise from refusing the child its way. If Mary is not allowed her own way in things she may scream and cry or sulk and pout. That would make home unpleasant, and the mother can not stand that unpleasantness. So she lets Mary do as she likes, and keeps things outwardly peaceful, no matter what the ills for which she may be paying the way.

There is the matter of eating. Children usually want to sample everything they see on the table. There may be things not at all suited to them, though all right for adults, but of course the child mind can not comprehend this unless it is taught. One mother "loves her child so much she can't deny it anything," so she lets it eat whatever it cries for and starts a train of stomach ills which will follow the child through life. Another mother loves her child so much she would rather see it cry a little now than suffer for years, so she gives the child only what she knows is good for it, and

as he grows older she explains why he must be denied certain things.

A case of this indulgent mother love came to my notice a month ago. A little girl of ten years, one of those girls we always speak of as "a bundle of nerves," was taken suddenly with convulsions. The family doctor worked over her for 24 hours, then called in a specialist who at once said the illness was caused by improper dieting. He laid down a rule of diet and after remaining with the child until she was quiet, went away.

In a day or so he was called back again, the child was worse than before. Questions revealed the fact that the mother had disobeyed practically everything he told her and had given the child nearly every article of food she had been forbidden. The mother's excuse was that she felt so sorry for the little one she couldn't bear to see her ask for anything and not give it to her! So she gave her the very articles of food that had brought on her illness in the first place.

In order to save the child's life, the mother finally had to be excluded from the room and a nurse installed who had enough hardness of heart, or plain common sense, to follow out the doctor's rules.

Of course, not all mothers would act so foolishly, but most of us are guilty of lapses. Our child teases for something and we give it to him to be rid of him. Instead, we should stop to think first if it is for his ultimate good to grant his request. Our children are quicker to see the justice of things than we suspect, and they will respect us more for a just refusal than for an unjust compliance with their wishes. How much better to deny them now, and have them thank us for it in later years, than to indulge them and be told finally, "If you had done your duty by me you would not have allowed me so many liberties when I was a child."

DEBORAH.

THE ELEMENTARY PRINCIPLES OF EMBROIDERING.

No. 1.

BY MAE Y. MAHAFFY.

Very few of us realize until we have given the subject considerable thought, how greatly we are indebted to the art or craft of the needle for much of the loveliness, refined elegance and actual comfort we enjoy. Almost every woman can at least do fairly well the ordinary plain sewing. The wielding of the needle in the more common ways seems quite a matter of inheritance; one might almost say instinct; yet there are so many varied, beautiful and practical modes of utilizing the needle other than those in demand for plain sewing that it really requires no small amount of study to comprehend and ably execute them all. Some have had no opportunity to delve deeply into this subject, nor even casually, and it is for these that this chapter and those which will follow are written, the idea of the writer being to bring to any who wish to master the craft called embroidery, some of the most needed helps, both as a preliminary to the actual formation of stitches, and in making the stitches themselves.

Embroidery is of such ancient origin, and has passed through so many transitions that there are of necessity many varieties known to the workers of today. Some of these require the mastery of new stitches, while others are simply new arrangements of those already familiar to most workers. However, there are some rules which hold good with any of these varying styles, and one of these is the absolute necessity of selecting the very best materials for all needlework. No matter how expert one may be with the needle, nothing but disappointment and crudity can result when unsuitable fabrics and threads are used. And it is not wise to be guided in this respect by the ancient workers, for the times have surely

changed, and the fabrics which entered into some of the most noted old-time embroideries would look incongruous and out of place in this latter age. Choose backgrounds with an eye to their practical usage, always having in mind just the specific purpose for which they will be used. Then select threads which will compare pleasingly in weight and texture, and which will not roughen in handling, lose their lustre easily or fade into a nondescript mass of coloring. A majority of responsible manufacturers of embroidery materials, as well as the retail dealers, are ready and willing to offer suggestions on these matters to any one sufficiently interested to inquire. They have varying grades of cottons and silks, each especially planned for specific usage, and unless one is sure of her ability to choose rightly it is safest to accept the help of those who have given the matter serious study.

Generally speaking, on the medium linen backgrounds used so much for center-pieces and dollies, a medium weight cotton floss is used, finer or coarser being selected for backgrounds which correspond. For the buttonholed edges it is oftentimes permissible to use a trifle heavier floss than for the design itself, especially if the design is of fine details. For coarse crashes, canvases, burlaps and the like a much heavier floss, more on the rope variety is used, and sometimes stranded floss, that is skeins of floss of fine texture, but of which as many strands may be used in the needle at once as is desired, thus making it possible to grade the work as one desires. This quality is especially good for darning net.

As for tools, sharply pointed scissors are a necessity for trimming around scallops, etc. A thimble which is not rough enough to catch every passing thread should be used. Crewel needles are obtainable in assorted sizes, and since they have quite long eyes compared with their

length and width they are easily threaded, and the floss has sufficient space to work through without pulling and fraying. Tapestry needles, which have blue points, are fine for darned netting, canvas work, or any embroidery where the needle does not pierce a firm material. If a needle by any chance bends instead of breaking during the work it should be discarded at once, for any bent needle will invariably throw the stitch out of alignment.

Frames are essential for most forms of embroidery, though some stitches, like buttonholing, are easily made over the fingers. A majority of the fancy stitches, however, are likely to be drawn, giving the finished work a puckered appearance if the material is not held taut and smooth in the process. Handsome embroidery frames, made with standards, were part of the equipment of most of the older workers, but while some such frame is desirable for those who make embroidery a business, the average worker can do very nicely with the commonly known hoops. These come in oval or circular form, so that the work will be held taut. A better frame for large pieces is made oblong in shape, something after the manner of quilt frames, though by no means so large. They may be of any desired size, and are adjustable. These may be purchased with patent appliances for the adjustment, or strips of smooth wood may be converted into similar frames by the home carpenter, pegs or bolts acting as pivots at the corners. Holes may be bored through the strips, through which to lace the edges of the piece, or strips of strong muslin tacked into place, to which the article can be sewn. Any material of a delicate nature should have a hem rolled over a cord to prevent the lacing stitches pulling out.

A stiletto is necessary for such forms of embroidery as require the piercing of holes. This is a sharply pointed, round piece of steel, bone or wood. Some have an instrument attached for gauging the size of the hole to be pierced, so that when a large number of the same size are needed the stiletto may be adjusted and left at a given point until all are wrought. In this way there is not likely to be a great variation in the opening.

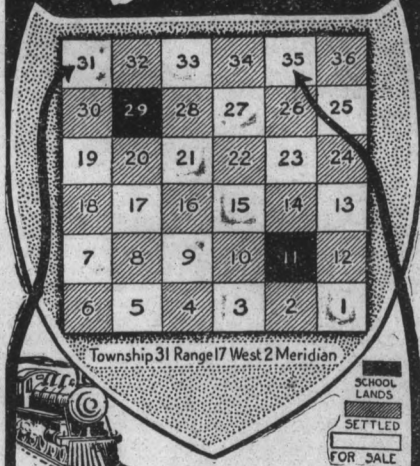
A bit of soap in the work basket will be found a great help when threading needles with soft floss which is inclined to ravel at the ends. Where several varieties of silk floss are in use at the same time it is well to have some sort of holder for them to prevent roughening. Two strips of muslin sewed together at intervals of an inch will serve nicely for this. The skeins are drawn through these spaces after being cut, the ends hanging free, from which single strands are taken as desired.

In washing finished embroidery made in colors only the mildest white soap should be used. This should not be rubbed directly on the piece, but be placed in the luke warm water until a lather is formed. Use care that the stitches may not be roughened by unnecessary rubbing. Several rinsings are needful, after which the work must be stretched out smooth, and spread on a clean towel or sheet until partially dry. Iron with the right side down on a heavily padded board, and a dampened cloth laid over the wrong side.

Where scallops must be cut out it is best to do up the piece, if necessary, first, since the laundering usually causes a sort of raveling. Some workers prefer to turn a tiny edge back under the buttonholing, overcasting it into place on the wrong side. Others buttonhole a second row inside the first, thus securing added strength and beauty. This is done after the scallops caused by the first row of buttonholing are cut out, and effectually settles the raveling. This is a particularly good idea for articles which will receive hard usage, like towels, sheets, pillow cases, etc.

Never make knots in the floss used in embroidering. To fasten the ends run the needle in and out of some portion of the work which will be covered with solid stitches, or catch it in the stitches already made on the wrong side.

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ALCOHOL—ITS CHARACTERISTICS

BY MRS. ALTA L. LITTELL.

Perhaps no substance is less understood than alcohol, nor more abused both by friend and foe, than this fiery product of the still.

Alcohol is a clear, colorless liquid obtained by distillation. That is, a liquid is converted by heat into a vapor, and this vapor is conducted by means of a tube into a cold vessel where it turns again into liquid. In a former article we saw that alcohol was produced by fermentation, so that two processes seem to be involved. Fermentation is needed first, and this produces alcohol combined with other liquids. Distillation then is brought into use to obtain the pure alcohol.

Pure alcohol will boil at about 173 degrees Fahrenheit; it burns with a blue flame; it will not freeze; it is an anesthetic; it stops decay and so is used to preserve anatomical specimens; it dissolves camphor; it is used in the manufacture of most perfumes and flavorings, and in many of the bitters and patent medicines on the market, some of the latter containing a far heavier per cent of alcohol than is found in alcoholic beverages; ether, chloroform and other anesthetics are made from alcohol, combined with other substances, and alcohol is also used in the manufacture of many other pharmaceutical preparations.

Its affinity for water is one of the characteristics of alcohol. It absorbs water when exposed to the air, and if a piece of steak is placed in a vessel of alcohol and left covered over night it will be found dried and shrunken in the morning, the alcohol having absorbed all the natural juices. When taken into the human body, alcohol acts in the same way, taking up the moisture from the bodily tissues. Of course, the rapidity with which the tissues are dried depends upon the quantity of alcohol taken.

The cook encounters alcohol in several ways, though often we do not know of its presence unless we have made a study of the subject. We saw how alcohol is always generated in bread making, but the quantity formed in the yeast is driven off by the heat of the oven when the bread is baked. When you reach for your flavoring bottle, rest assured you are reaching for alcohol, as practically all the flavorings are made with the aid of alcohol. If you put brandy or wine into your mince meat, of course you know you are using alcohol, but here again, the alcohol is driven off in baking by the heat and all that is left to your pie is the flavor of the liquor.

Some housekeepers take advantage of the fact that alcohol prevents decay to make a fruit concoction known as tutti frutti. Layers of fresh fruit, each in its season, are placed in a crock and liquor poured over each layer. The fruit is certainly kept fresh, but whether it is digestible after having lain for weeks in alcohol is a question which demands attention.

The helpfulness of alcoholic drinks as an aid to digestion is a question much discussed. Many claim that a little wine taken with the dinner is not only not a detriment to the body, but is a positive help in furthering digestion. In contradiction to this, Sir William Roberts, M. D., declares that sherry, claret and champagne check both salivary and peptic digestion even more than do brandy, whiskey and gin.

Experience and common sense seem to show that alcohol is like every other powerful agent known to man, dynamite, nitro-glycerine, electricity, and others of similar helpful and destructive qualities. If kept in its place and used with wisdom by those who understand its characteristics, it is a blessing. If used out of place, or by those who do not understand its powers, it is a curse.

A HINT TO RENTERS.

BY MRS. E. D. SCOTT.

When moving into a rented house never fail to fumigate well with sulphur as a precaution against bugs and moths. I once moved into a cottage that I supposed was almost new—only one family having occupied it, and they very nice housekeepers. Still I insisted on the sulphur smudge all night, before a thing was moved in. I was doubly thankful when I learned that the cottage was made over from an old house which was badly infested with bugs. And we never saw any signs of any all the three years we lived there. Soon after this we had some friends come to the same town and move into an old house near us. We told them about the sulphur and gave them a lib-

eral supply to fumigate with, but it was forgotten until a late hour in the evening and they thought it "would do" in the morning. Trying to fumigate while moving in, proved their downfall, and to get rid of the bugs which seemed to be in every crack and crevice, they were obliged to move again.

The only sure way is to shut the house up tight and let the fumes go through all the rooms and cellar before moving anything in, and remain so all night if possible.

The easiest way is to use sulphur candles, which is also more expensive, but common sulphur does very well. Put it on live coals protected by some old iron kettle or shovel, and then get out quickly. Once when living in the city there was an epidemic of diphtheria, and each family was ordered by the health officers to sprinkle a pinch of sulphur on a hot stove every morning, as a preventive. A young lady living in the next yard died of a very malignant type of it, yet none of our family contracted the disease. It may be due to the sulphur that we escaped.

The doctors say that some disease germs live a good many years. A case in our city showed this to be true. Several workmen were remodeling an old building in which there had been a death from scarlet fever some 12 years before. In tearing out some of the old walls these men contracted the disease and two of them died with it. Where I am now living a man died with consumption a number of years before we bought the place, so I consulted our doctor before making the move. He said by all means to fumigate, but to use formaldehyde as it was known to be sure death to all kinds of germs, and a fine disinfectant. So my husband bought three formaldehyde candles and burned them all night in the house before we moved in. The doctor said that his wife used the liquid formaldehyde in a fine spray about her bedding and closets when she cleaned house. A little prevention costs little, and is worth more than can be computed in health and peace of mind. We feel perfectly secure after living here four years.

POINTS WORTH KNOWING ABOUT MATTRESSES.

A well known physician writing about mattresses says: "It is strange, since people spend about two-fifths of their lives in bed that they should be so indifferent in the matter of a good, clean, comfortable, sanitary bed."

The shuck mattress and feather bed, laid on hard, unyielding slats or bed cords which sag down in the center, were all right in their day when no better bed was to be had, but now they are as far behind the woven spring with the modern mattress on top, as the old cream skimmer is behind the modern cream separator.

The ideal bed is one that is sanitary, soft, springy, and yielding, on which the body can lie at full length, every muscle perfectly relaxed and yet firm enough to prevent hollows and sagging in the center. The feather bed is not only uncomfortable and unsanitary but unhealthy as well. The sagging in the center puts many groups of muscles on a stretch and strain and the great heat from the feathers causes congestion of the parts of the body lain upon. If not renovated quite often the feathers become foul and unsanitary.

Of what shall a mattress be made, then? At the present time only two materials—all things considered—merit serious consideration. They are hair and cotton.

Cotton is a clean vegetable product and makes a comfortable mattress. The reason these mattresses are called cotton-felt is because the word "felt" has its origin in the kind of machine used in combing out the tiny cotton fibers into fluffy uniform cotton sheets. These cotton sheets when ready for the mattress stand many times higher than the finished mattress and consequently have to be compressed. This gives an idea of the wonderful springiness, softness, and comfort of a mattress so constituted.

Made by skilled workmen in a clean, light, airy factory, covered with fine, dust-proof ticking, the good cotton-felt mattress is the ideal mattress. It does not have to be made over, is sanitary, will not lump up or wear into hollows, will last almost a lifetime and the price is within the reach of the modern, up-to-date farmer who wants comforts for himself and wife.

One need have no fear of ordering such a mattress by mail, if the firm guarantees

a mattress to be made of good cotton-felt, good tick, hand sewed, and weighing 50 pounds or more for a full size bed. When a firm guarantees all this and then offers to refund the money if not satisfactory it surely can do no more. Since they sell direct to the consumer, they can sell much cheaper, and besides, the mattress does not lie around "a warehouse or storeroom accumulating dust and dirt, but comes fresh and clean, direct from the finisher's table.

All the mattress needs is an occasional sun bath to keep it sweet and clean.

TEACHING KINDNESS TO ANIMALS.

BY ELLA E. ROCKWOOD.

Children should be taught never to inflict needless suffering upon animals. Naturally, most little ones seem possessed with the most heartless indifference in regard to the subject.

Kittens come in for a major share of misuse at the hands of toddling youngsters. Women who would shudder at the sight of pain or expostulate without a moment's hesitation at the abuse of a horse, permit their own offspring to maul and haul a helpless little cat without the slightest objection being raised in its defense.

Sometimes a full grown cat is the victim. In this instance it would appear that resistance might be offered and the sharp claws used to assert its rights. So inert do cats which are much handled become that they rarely resist, but submit to be choked or have an eye poked out without raising more than the faintest mew as a protest. Cats are not proper playthings for children from a sanitary standpoint and even if the mother is indifferent to the creature's sufferings, as sometimes seems to be the case, she should not permit one to be handled by her child. Germs of disease are liable to be communicated as cats are excellent mediums for their transmission to human beings.

Dogs of the smaller breeds not infrequently share with cats in the infliction of mistreatment at the hands of children. The affection of this four-footed friend for a child is well known and appears to render him oblivious to personal rights in such matters. Even the faithful collie or shepherd dog often is called upon to endure a good deal by way of choking hugs and ear pulling. No such animal is proof against retaliation beyond a certain point and precaution against a revolt which might prove serious, if not fatal, should be taken, by seeing to it that no child is permitted to tease these most patient and faithful of animals. If mothers would see to it that children are taught to treat such pets humanely it would go far toward eliminating cruelty later on in life.

SHORT CUTS TO HOUSEKEEPING.

To keep a delayed dinner hot set the dishes containing the cooked dinner in a baking pan with a little hot water in and set in the oven, well covered. The dinner will keep for two hours or more.—Mrs. A. D. P.

Lace curtains should soak for two hours before washing, in cold water, to which a little borax has been added. They are much easier to wash after, and this rids them of the smell of smoke and dust.—F. T. M.

To remove mildew, mix soft soap with powdered starch, half as much salt and the juice of a lemon. Lay this on the part with a brush, and then lay the article on the grass day and night until the stains entirely disappear.—F. T. M.

To rid a house of ants, put a plate with sweetened water and paris green or any kind of poison where they come.—E. K.

Furs should be well beaten and switched lightly, free from dust and loose hairs, well wrapped in newspapers with camphor laid about and in them and put away in a cool dark place. In packing them they should not be rolled so tightly as to be crushed.—Mrs. J. J. O'C.

For an abscessed tooth, take a piece of cheese cloth, or any thin material, one inch square, fold it and sew it all around except at one end. Boil a small quantity of corn meal, to which has been added enough red pepper to make it very hot. But some of this into the little cheese cloth bag, sew up the end, and apply while hot to the gum of the aching tooth. This will cause the abscess to come to a head on the inside of the mouth. The dentist advised not putting a poultice on the outside of the face, as it might cause the abscess to open on the outside.—Mrs. J. D.

DAME NATURE HINTS

When the Food is Not Suited.

When Nature gives her signal that something is wrong it is generally with the food; the old Dame is always faithful and one should act at once.

To put off the change is to risk that which may be irreparable. An Arizona man says:

"For years I could not safely eat any breakfast. I tried all kinds of breakfast foods, but they were all soft, starchy messes, which gave me distressing headaches. I drank strong coffee, too, which appeared to benefit me at the time, but added to the headaches afterwards. Toast and coffee were no better, for I found the toast very constipating.

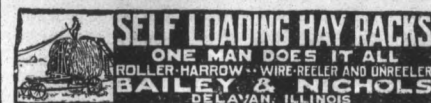
"A friend persuaded me to quit coffee and the starchy breakfast foods, and use Postum and Grape-Nuts instead. I shall never regret taking his advice.

"The change they have worked in me is wonderful. I now have no more of the distressing sensations in my stomach after eating, and I never have any headaches. I have gained 12 pounds in weight and feel better in every way. Grape-Nuts make a delicious as well as a nutritious dish, and I find that Postum is easily digested and never produces dyspepsia symptoms."

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HOME AND YOUTH

ONCE A MORMON.

BY ERMA B. MATTHEWS.

Synopsis of Preceding Chapters.—Promoters of a new colony, claiming to be ministers, enter a prosperous New York state community and persuade a number of farmers to sell their homes and join them. Among the colonists thus secured are Amos Brandon, his wife, his young daughter, Elinor, his married daughter, Myra, and her husband, James Baldwin. Another married daughter, Rosetta, and her husband refuse to join. The site selected is on one of the Beaver Islands, in Lake Michigan, and the colonists are transported there by boat. Just before reaching their destination the chief promoter reveals himself to be one James Strang, leader and ruler of the Mormon kingdom which he had established on the island. Under the title of king he claimed to rule in accordance with revelations received direct from the Supreme Being. Strang absented himself from the island the first winter, during which the colonists suffered severely, and on his return sought to relieve them and at the same time makes war on the Gentiles by making public a so-called revelation that it was lawful for his people to seize the property of the Gentiles. He also prescribed a certain mode of dress for the women, at which Elinor rebelled, although her father, who seemed completely under the control of Strang, tried hard to enforce obedience. During the first summer Strang decided to have himself crowned king, and Elinor, in the company of her young admirer, Robert Stuart, attended the coronation. The rule of Strang now became oppressive; the seizure of property by the Mormons was still sanctioned and many Gentiles fled from the island. His law regarding women's dress was disregarded by Elinor, although the king seized and burned her wardrobe in his futile effort to compel her to adopt the prescribed dress.

Chapter VIII.

Elinor watched Strang's departure with flashing eyes, then sank beside the fireplace and burst into stormy sobs which frightened her father even more than her previous attitude had. He knew not what to say to her and he was harassed by thoughts of what the king might do by way of punishment did she persist in the attitude she had taken.

In this condition Mrs. Brandon found them when she returned from her daughter's, Elinor crouching on the floor beside the fireplace, sobbing, and her husband pacing the floor.

"What is the meaning of this?" she asked in astonishment. "Elinor, child, tell mother what the trouble is," but at the sound of her gentle voice and the kind words Elinor only sobbed the more and clung to the mother, who knelt beside her in a perfect abandon of grief that frightened Mr. Brandon.

"Amos, have you lost the power of speech that you cannot tell me what ails our daughter?" she asked, turning toward her husband.

"I think she will be able to tell you herself soon," he answered, frowningly. "The king has been here and Elinor has chosen to make herself ridiculous, and also to get us all into trouble with her silly notions."

Mrs. Brandon said no more but gave her attention to soothing the agitated girl. At length the sobs became less frequent and after a time she became able to talk. Then in a few words as possible she told her mother what had transpired.

Mrs. Brandon had never in any way asserted herself in all her married life. Her will had always been subject to that of her husband, but there comes a time when even a worm will turn and that time had arrived. Like a lioness defending her young, she arose and faced her husband. Her cheeks flushed and her nostrils were dilated with anger.

"Is it possible, Amos Brandon, that you stood by and saw any man offer such insults as that to your daughter, and you call yourself a man!"

"Martha!" gasped the astonished man.

"Never in all my life," she continued, "have I disputed your right to govern your household as you saw fit, but I tell you right now you have ceased to be fit to govern it."

"Martha!" he ejaculated again.

"I want you to understand that Elinor shall not be subject to such outrage from that man, and if her father has not spirit enough to defend her, her mother has. She shall wear the clothes she sees fit, and I will make them for her, too, and we shall neither of us wear the hideous dress that man has devised, either."

"As far as you are concerned, he did not insist on it," answered her husband, finding his tongue at last, "for I told him the change would be displeasing to you at your age."

"I wonder he was so kind," she scoffed; "but neither shall Elinor be compelled to

wear it, and if that man ever forces himself into her presence in that manner again I warn you, and him, too, there is going to be trouble."

Mr. Brandon was never more astonished in his life and, coming as it did on top of what he had already been through that day, it was almost too much. His face had a harassed look as he answered: "Well, I do not know what the outcome will be. The king has already forbidden any of us to be seen at public worship until Elinor makes due apology for her conduct and promises better for the future."

"That she will never do," answered his wife firmly, "and as for public worship, I for one do not see much worship in it. I can worship at home and so, I am sure, can you if you are so disposed. Another thing: before I will be so dictated to by that man I will leave this island. This is a free country we are living in, I hope."

"You are talking foolishly, wife; to leave this island now would mean to lose every cent we have in the world, for it is all tied up here."

"Better to lose that than our self-respect," she answered, firmly.

Mr. Brandon let the matter drop for the time, for he saw there was no use of arguing the matter further, but he was really worried. He had been, up to this time, quite a favorite with the king and he knew that the attitude of his family would work against him. More than this, although he might not admit the fact to himself, he feared the king. He had seen enough of his dealing with others to know that he was merciless when once his wrath was aroused, and he knew that his defeat by Elinor would rankle. The man was one who loved power for power's sake and he would not countenance defeat. What the outcome would be Mr. Brandon did not dare question, but he did not rest well from then on.

Meantime his wife had stirred the fire and prepared the evening meal. It was rather a silent one and none of them ate much. After it was cleared away she brought out a pretty piece of print and placed it in her daughter's hands. "I intended to keep it for your birthday," she announced, "but as things are, you need it now. We will begin work on it in the morning."

Elinor thanked her mother with a kiss, but she really took no comfort in the pretty dress. For the first time she realized that her war with the king was going to involve others and she was sick at heart. However, she summoned all her strength that her mother might not guess how really alarmed she was. She helped her cut and make the pretty dress and went with her to the point that they might purchase more, for Mrs. Brandon, now aroused, decided that her daughter should have all the dresses she had been deprived of.

So busy were they that it was a week later before Elinor met any of her former associates. Then she met Elizabeth one day in the woods as she was returning from Myra's. Elinor hurried toward her friend with a smile and a gay word of welcome when, to her surprise, Elizabeth turned her face away and did not answer her. Elinor stood still, gazing at her in amazement until the other girl looked up and caught the look on her face. It was more than the latter could bear and she cried out: "O, Elinor, do not look like that! I cannot help it, indeed I cannot. The king has forbidden anyone to have anything to do with you until you become obedient to his will and obey the law."

Elinor turned pale. This, then, was one of the means he was to make use of for her punishment. A smile of derision at her friend's weakness crossed her face, but a moment later it was followed by one of tenderness and sorrow.

"I did not know, Elizabeth, and it is indeed best that you should not speak to me. I do not wish to get anyone else involved in my trouble."

"What does the dress matter after all, Elinor?" asked her friend eagerly. "Why not give up and wear it?" But a hard look came over Elinor's face as she answered, "It is not only the dress, Elizabeth, it is the principle. I shall never do it, I believe," in a low voice, "I believe I would die first."

The other shuddered at the words; there seemed to her to be an ill omen in them, and yet—there are things so much worse than death.

"Then I must go, but remember, Elinor, I will always be your friend; remember that, although I may have to appear otherwise when we meet. Whenever we can meet unobserved, however, things will be as they were before," but Elinor shook her head.

"No, Elizabeth, we do not know when someone may see us and we do not know who may be spying. It will be better that we meet only as strangers."

Then she turned and walked away, leaving her friend gazing after her with tears in her eyes.

As Elinor hurried along she wondered if that was the reason she had not seen Robert the past week and her lips curled scornfully at the thought, although her heart was filled with sorrow and bitterness, but in this she did the young man an injustice, for he was busy with the fishing boats on another part of the island and had not heard of the ban that the king had raised against the girl. When he did hear, however, he went at once to her home and set her fears at rest regarding the matter so far as he was concerned. But she saw that he was troubled and sick at heart, although he tried to appear as gay as before. Elinor refrained from telling him of the burning of the dresses, as she found this had not been made public. She feared that he might, in his anger, do something rash and she was getting a morbid fear of what the consequence might be to others who should espouse her cause.

Chapter IX.

The days and weeks that followed were hardly pleasant ones in the Brandon home. Mr. Brandon was sullen and silent. He considered that his daughter had brought needless trouble upon him, and then the attitude of his wife had but added fuel to the fire of his kindred wrath. The truth was, Amos Brandon was not accustomed to having his authority thus set at naught and it was in no manner pleasing to him.

James and Myra had also held themselves somewhat aloof, fearing that the king might take them to task if they were too frequently with the rebellious family.

"Elinor has made a dunce of herself," James declared angrily. "I hope you, Myra, will have more sense and will submit with good grace to whatever commands the king sees best to issue. It is the only way to prosper here."

"Certainly, James, I am willing to be governed by the law," she answered at once, but she little knew how soon those words would be repeated to her and that she would hear them with loathing and anger.

The Brandons were all seated before the glowing fire one day when James and Myra walked in upon them. They all looked up with surprise, for it had been some time since they had called and they saw at once that both were laboring under some excitement.

"What is it, James?" asked Mr. Brandon as he gave a chair to his son-in-law, while Myra sank down on a bench beside her mother.

"You were not at public service, of course, yesterday," began James, "so I thought you had not heard, but the king has had some new revelations. One of them is certainly astounding, considering the way he has always preached about such things."

"Well, what is it?"

"He says it has been revealed to him that it is not only lawful, but it is the duty of a man to marry more than one wife. He also declares that it is his intention to follow the divine command and take more wives immediately."

"Yes, and he urged all the elders and others to do the same," exclaimed Myra.

"A polygamist! I hope now, Amos, you see the advisability of leaving this place," declared his wife.

"Do not be foolish, Martha," her husband answered, testily. "I do not see as his having more than one wife need to affect us any, and I tell you our interests are all here." Then, turning again to James, "He has made this revelation public, then?"

"To be sure he has, and there is much excitement among those in the settlement, I assure you. Many are indignant, for they say he promised no such thing should be countenanced here and always spoke of Smith as a fallen prophet because he allowed it. The women, especially, are up in arms. Really, I hardly know what the outcome will be. It is said Mrs. Strang was so angry that she visited the Tabernacle and obtained the king's robes and burned them, but I am sure such conduct on her part will do no good whatever."

Elinor had grown pale as she listened, and now as she watched the weak face of her brother-in-law she shuddered—she hardly knew why. She would not have dared at that moment to put her fears into words, but she did ask: "Surely,

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James, you do not believe in this manner of living?"

"For myself, of course not. I would never think of such a thing as taking a second wife, but if others wish to do so I am sure it is no business of mine."

"No business of yours! It seems to me it is the business of any honest, honorable man to protect the weak! Do you suppose the women will like to have their husbands bring home other wives? Do you think they have any right in this country to do such a thing? I believe Strang intended this from the first, and that is why he took an island for his colony. He will not be interfered with here as he would in one of the states. Were they not driven out of Illinois and the other places they tried to settle? Oh, it is horrible!"

"Do not try to talk about what you do not understand, Elinor," her father counseled; "it would be much better if you would not air your opinions so freely. What is, cannot be helped, as I can see."

"Are there no officers that can enforce the laws?" she asked.

"Officers, yes," laughed James, "but the king has looked well after them. They are all Mormons and will obey his will to the letter. No, there is no way but to submit and make the best of it. After all, it will not affect us in the least, so we had better say nothing."

"That is what I think," said Myra. "As long as James has promised me that he will never take a second wife, I am not going to worry about the rest. I can be happy in my own home and not go to the places where men so dishonor themselves."

"But you are contented to be governed by a man who intends to do so. Do you think he is more honorable about one thing than another? I tell you the people should not submit to it, and, besides, supposing he issues commands for others to follow his example. He is capable of it. What then?"

"He will hardly do that I think," answered James, easily, "and there is no use borrowing trouble."

But James had spoken truly. Many of the people were angered at what the king had done, yet all found themselves more or less helpless and obliged to put up with what they could not help. Others had such perfect confidence in Strang that they thought anything he commanded was right, no matter what it was.

It was shortly after this revelation that Strang removed his ban as respecting Amos Brandon, telling him that he understood things more fully now and that he believed him to be in no wise to blame for the action taken by his wife and daughter. But they were still prohibited from attending public worship. Elinor felt that this would, in the end, but mean more sorrow for them, for she saw that her father was getting more and more under the control of the king. She dared not voice this fear, for there was no one to whom she could tell it, unless it was her mother, and she felt that she suffered enough without adding aught to her fears. It was enough that her husband, the husband of her girlhood, who had loved her, shielded her all her life, was estranged from her and no longer treated her as was his wont. Slowly, but surely, Elinor saw that her mother's heart was breaking under the terrible ordeal.

Strang did as he had said and in a short time took another wife home. Then it was that his wife, Mary Strang, packed her things and with her three children left the island. She had never believed in the doctrine he preached, but she had borne with it on account of her children until now, but this she considered was more than any woman was called upon to endure and she left. She talked with some of the people before she left, especially some of the women, and she visited Elinor during the absence of the king.

"My poor child," she said, "my heart aches for you, and I must warn you to be careful. You have angered my husband terribly and I tremble for you. Keep close at home for the present and trust no one, for you cannot tell who your friend may be. I do not know just what Mr. Strang's intentions toward you are or I should know better what to advise; I have been unable to find out although I have tried. I do know, however, that he will stop at nothing to carry his ends, and he has those around him who will obey him to the letter, so be careful. I have heard it hinted that dead folks do not tell tales, and I am afraid for my own life were I to stay here and oppose him, and so, because my children need me, I must go."

Elinor bade her good-bye with a heavy

heart, fearing that she had lost a true friend and she needed them so sorely, but she saw also that the advice given her was good and she said nothing about her trouble, even in her own family, for somehow she was getting the impression that it was not exactly safe to say all she felt, even before her own father.

The king was absent now, however, and she breathed easier and allowed herself to go around more because there was no danger of meeting him. Then an event happened that struck terror to her heart, for it showed what the Mormons were capable of doing when they were disobeyed.

(To be continued.)

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Mrs. Mayhew was a wise mother. As only a wise mother can, she studied the nature of each child. She made it a point never to withhold her sympathy or praise for any task well done. Each child, she felt, should be allowed to specialize along the lines best adapted to his tastes. Rosa, for instance, was fond of baking. Under the mother's stimulation this daughter soon came to excel in this line. For her work she was paid so much a week and allowed to take care of her own money. Ethel, on the other hand, loved to cook. So her mother gave her a practically free rein in this department, so that she soon came to be able to prepare a tempting meal, even for company, without her mother's oversight. Thus she earned the means to satisfy her necessities. Mary had a taste for sewing and this was carried to the point where she could make her own clothes and some things for the rest of the family. And she, too, became financially independent.

Robert had his fad—he was extremely fond of birds. So he was given the management of the poultry and a share in its profits. He was encouraged in his inclination to study the care of poultry and made to see that success in poultry raising was his success also. James, who loved things growing in the ground, was given the management of the potato crop and a share in its proceeds. He also soon became proficient in the conditions necessary to insure a good harvest of potatoes.


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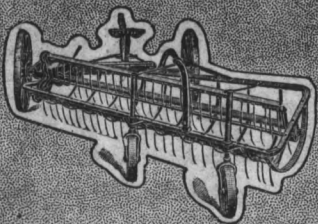


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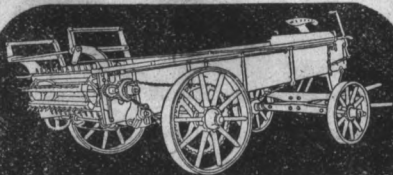
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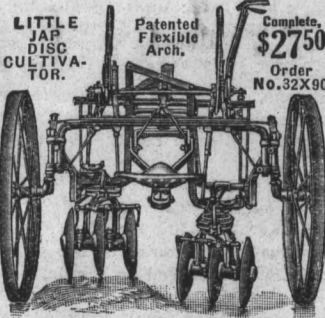
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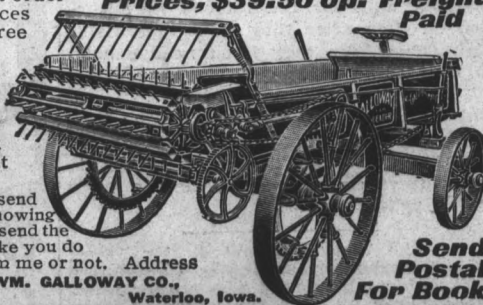
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