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FARM NOTES.

Wireworms and Cutworms.

I would like your advise on this proposition. A six-acre field was a sod last year, and was planted to corn, and was planted to corn again this year, as I had no other ground for corn. The corn has sprouted and a yellow wireworm is eating out the sprout from the kernel. I have depended on this corn to winter five cows. Is there any other crop that these worms will not destroy that will take the same place? Would you advise planting to beans and selling them to buy hay? This ground is low, but is tiled. It is also badly infested with cutworms. Planted the corn deep, thinking the cutworms would not injure it so badly.

Oakland Co.

SUBSCRIBER.

There is no crop that will replace the corn crop as a source of forage and grain for the wintering of live stock. Where the crop is not damaged too badly by these pests the best way would be to plant it in and save it if possible. But if the wireworms are so bad that it is impossible to save the corn crop, then some other crop must be substituted for it. In this case it might pay to try beans, as suggested in this inquiry. Beans are planted later, when the weather conditions are more favorable for the quick germination of the seed and the rapid development of the young plants, and they can, under favorable conditions, be cultivated within a week or ten days from the time of planting, and cultivation will aid them in their growth and also prove a discouragement to the worms. We have seen beans substituted for corn where the latter crop was destroyed by cutworms, with good success, but if the wireworms are too plentiful it might be more profitable in the end to substitute some crop which is distasteful to them and which will be apt to suffer less injury. Buckwheat is such a crop. While wireworms will work in it some they do not appear to like it and will not destroy it as they will the early planted cultivated grain crops.

Where wireworms are present in the soil it is a good plan to plant to some summer crop for about three seasons before reseeding to clover and the grasses, since the larvae of these worms live in the ground for two or three years before they reach maturity and develop into perfect insects. For the same reason it is better to practice a short rotation of crops on land that is likely to be infested with these pests, since by this means the likelihood of loss from their depredations may be reduced to a minimum.

This plan is a better one as well with which to keep up the fertility of the soil, since by practicing a short rotation of crops and having clover come in the crop rotation as often as once in three or four years the nitrogen and humus content of the soil may be kept up, both of which are very essential to the maintenance of soil fertility, and the soil can be kept in a good mechanical condition as well. This latter point is one not sufficiently well appreciated by the average farmer in keeping up the producing power of the soil, and is quite as essential as to have plenty of available plant food in the soil.

Canada Thistles.

I would like to ask through your valued paper if there is any way to get rid of Canada thistles. They are getting a big start in this vicinity.

Oakland Co.

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There is just one certain way of eradicating Canada thistles or any other similar noxious weed, and that is by keeping them below ground. If they are not allowed to develop leaves they must die within the season, since no plant can long survive without leaves. There are various other plans which will help to subdue them, such as a double plowing, plowing a shallow furrow first and then a deeper one from the bottom of the same furrow, which will bury a good many of the

plants so deeply that they will be smothered. But this or any other plan must be followed up by clean culture to thoroughly exterminate them. Canada thistles are pretty well distributed and are undoubtedly gradually spreading into new territory all the time. It is to be regretted that where farmers are accustomed to them they seem to care little about them and to make little effort to get rid of them, once they get established. However, it seems to be a fact that they decrease in vigor and numbers after they have occupied the land for a few years,

outside cellar in which to treat them, the gas method can be employed with some saving of labor. This treatment is applied by combining three parts of potassium permanganate with eight parts of formaldehyde by weight in the following manner: Place the permanganate in the bottom of an earthen crock having a capacity of at least one gallon for each pint of formaldehyde to be used; then pour the formaldehyde into the crock and retire quickly from the cellar, shutting it up as tightly as possible. The formaldehyde will at once be converted into a

to 30 gallons of water where the tubers are treated in the solution, and soaking them for one to one and one-half hours in a solution of this strength. This is a stronger solution than the writer ever used, but would indicate that plenty of formaldehyde can be used without danger to the seed. Some users have complained that using the solution at the rate of one pound to 30 gallons of water has injured the germinating quality of their seed, where the tubers were soaked only one and one-half hours, but we believe the trouble was due to some other cause, for we know of one case in which a batch was allowed to soak in a solution of this strength over night without any injurious results.

Some growers still adhere to the corrosive sublimate treatment, believing it to be more effective than the formaldehyde treatment. This treatment is given by soaking the potatoes in a solution of one ounce of corrosive sublimate to eight or nine gallons of water for the time noted above. Where this treatment is used the corrosive sublimate should be first dissolved in a little warm water and then more water added to this solution to make the required strength. The objection to this method is the poisonous nature of the solution and the consequent care which must be exercised in its use and in the disposition of the tubers after treating and the vessels used in the treatment. The other treatment is free from these objections and as it appears to be just as effective is favored by a majority of growers who treat their seed.

Whether it pays to treat the seed every year or not is a question upon which growers do not agree. Some do not treat their seed at all and yet have very few scabby potatoes in seasons which are not favorable for the development of the fungus. However, the cost of treating is small, and it is generally conceded that a greater immunity from the disease is enjoyed where the seed is treated, for which reason it undoubtedly pays to treat the seed, especially if the seed to be planted is not practically free from scab.

Destroying Weevil.

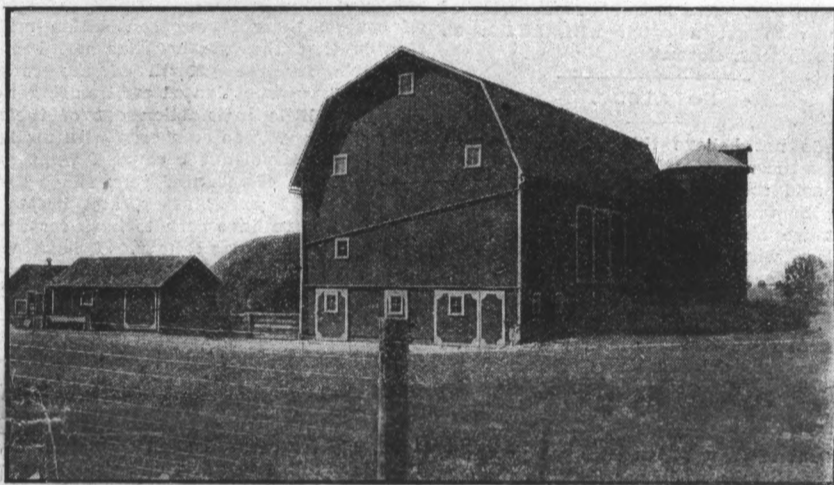
I have a granary the dimensions of which are 12x16x8 feet. About how much bi-sulphide of carbon should be used for exterminating the bin weevil? The granary is empty. Please answer through the Michigan Farmer.

Washtenaw Co.

SUBSCRIBER.

The amount of carbon bi-sulphide to use for destroying weevil in a granary is generally stated to be one pound to each 100 bushels of grain to be treated. The writer's only experience in its use was in a granary filled with rye, in which the chemical was used at that rate. Perhaps in an empty granary it would not take as much as a pound for each 100 bushels capacity of the granary, but enough should be used to make certain that the fumes which penetrate every crevice are strong enough to kill the pests. Then as the gas from this liquid is heavier than air enough would have to be used to fill the granary with the gas, to insure destroying all of the pests. So if one wants to be certain of getting a good job it might pay to use it in the same quantity as would be necessary if the granary was full of grain. The writer has never had any trouble with the weevil in his granary since the treatment noted. It eradicated them thoroughly.

Where an empty granary is being treated the liquid should be poured into shallow dishes set on some support in the upper part of the granary to insure a rapid evaporation and thorough penetration of all parts of the room. Care should, of course, be taken to shut the granary as tightly as possible and to keep away from it with lanterns until it is thoroughly aired out after remaining closed for from 36 to 48 hours, as carbon bi-sul-



Modern Barn on the Farm of Alvah Miller, Barry County, Mich.

since they are not nearly as thick in some of the territory where they were the worst a few years ago. But they will stay right along and continue to be a nuisance where they get established, and the above fact is no argument in favor of letting them get established on any farm which is free from them at the present time or which has only scattered patches of them. It will pay to keep them in subjection, and to make an effort to have the law enforced with regard to keeping them cut in the highways, even

gas which has been found to be deadly to the spores of the fungi. At several experiment stations where this treatment has been tried it has been found to be equally as effective as soaking the tubers in the solution of formaldehyde. The writer has used this method of treating seed potatoes for two years with apparent success. We used one pound of formaldehyde with the permanganate in the proportions given above for each 1,000 cubic feet of space in the cellar. This was in accord with the earlier advice received



Alfalfa Field on the Farm of George C. Nichols, Ottawa County—Sown in August and Photo Taken October 1, 1909.

at the risk of offending some careless neighbor.

Treating Seed Potatoes for Scab.

Kindly publish in your paper or send me the formula for treating potato scab. Kalamazoo Co.

L. B.

As before noted in these columns, where one has but an ordinary amount of seed potatoes to treat for scab the best way is to soak them in a solution composed of one pound of commercial formaldehyde and 30 gallons of water for one and one-half hours before cutting. Where one has a larger quantity to treat and an

from experiment stations with regard to this treatment. A press bulletin issued by the Wisconsin station last year, however, advocated the use of four pounds of formaldehyde and 24 ounces of permanganate for each 1,000 cubic feet of space in the cellar. We did not get complete immunity from scab, although the proportion of scabby potatoes resulting from the planting of the seed was small. Perhaps more material should be used, as advised in the bulletin above mentioned. This same bulletin advocated the use of one quart (two pounds) of formaldehyde

phide is a very volatile substance and very inflammable.

Killing Mustard in Oats.

I would like to know a means of doing away with young mustard without destroying a crop of oats.

Bay Co.

J. A.

Quite extensive experiments have been conducted by different experiment stations in the eradication of mustard from oats by spraying with chemical solutions. Copper sulphate was the first of these sprays tried which was found effective. This is applied in solution at the rate of one pound of the vitriol to four gallons of water, from 30 to 60 gallons being used per acre. This is sprayed on the field while the weeds are young and tender and the oats are about six inches high. This remedy, however, was not found to be very effective in dry weather. Later iron sulphate was used instead of copper sulphate with some success. Our own experiment station did some field work to determine the efficiency of this treatment, but we have not at hand the data which was gathered from the result of the work. Applied to dandelions in the lawn this solution had the effect of discouraging the weeds to a considerable extent, but did not destroy them in one case in which the writer has seen it tried. While these remedies may be sometimes applied with profit in an oat field where this weed pest is particularly troublesome, yet it will not be found that it will take the place of the sovereign remedy of good cultivation in the eradication of any weed pest.

Eradicating Dandelions from the Lawn.

We have a quantity of dandelions in our front yard which are a perfect nuisance. Do you know of anything that will kill them without injuring the grass in any way? Is sowing commercial fertilizer any help?

Wayne Co.

L. S.

The most satisfactory way in which to remove dandelions from the lawn is to cut them off just below the surface of the ground with an implement made for the purpose. A narrow, chisel-like spud is the best tool, as it will injure the grass less than any other. Liberal fertilization will encourage the grass and this will discourage weeds of all kinds as well as the dandelions. Close clipping of the lawn will also serve the same end.

ALFALFA HELPED BY INOCULATION.

My experience with alfalfa is rather limited but I am willing to give the readers of the Michigan Farmer the benefit of it. I have one and three-fourths acres on a sandy loam with heavy clay subsoil. Three crops of timothy hay were cut from this ground, then it was broken up and planted to corn and the following year to beans. The next spring 36 large loads of cow manure was plowed under and the piece again planted to beans. They were kept clear from weeds and Canada thistles, with which the ground was previously pretty well infested. The next spring (1909) this ground was kept well worked without plowing until about the 25th of May, when the alfalfa seed was sown with barley for a nurse crop. I set the drill to sow five and one-half pecks of barley per acre, and stopped five of the 11 hoes, thereby sowing the rows 14 inches apart by letting the wheel follow back in the wheel mark. In this way three pecks per acre of barley was sown.

I used 30 lbs. of alfalfa seed, 20 lbs. of which was inoculated with pure culture from the Bacteriological Laboratory, East Lansing, and 10 lbs. was sown without inoculation. I have a good stand on nearly the whole piece, but the part sown to uninoculated seed is of a very pale green color, while the other is a very dark green and is thrifty and healthy looking. The headland on one end was sown all the way across with inoculated seed and the difference in color is very marked on the end of the inoculated part. As far as I have examined, nodules are quite plentiful on the inoculated part, but I have not found any on the other portion, which fact leads me to believe that under favorable conditions and when properly done inoculation is a success. I can not quite agree with Mr. S. N. Harley, of Mason county, that rich and well fitted soil is all that is required to succeed with alfalfa.

I used 200 lbs. of a 3:8:6 commercial fertilizer per acre at time of sowing. The barley was allowed to ripen and although put in late yielded a good crop of grain. Frost has hurt the alfalfa plants some but I am looking for a fair crop this year. I have not tried liming yet, but am getting a piece of ground containing about five acres ready for seeding next season and think I shall try the lime, as I have

reason to believe the ground is inclined to be acid.

Tuscola Co.

F. W. ALEXANDER.

SUCCESS WITH ALFALFA IN WESTERN MICHIGAN.

Bruce O'Dell, of Wexford Co., has published a leaflet entitled, "Alfalfa," which contains many good pointers regarding the growing of that valuable crop in this Western Michigan country. Mr. O'Dell has had considerable experience with alfalfa as will be seen by the following:

"During the past eight years I have kept constantly in touch with this subject, have sown alfalfa nearly every year and during the past four years have not failed in getting a good profitable crop. All of my experience in raising alfalfa has been on thin sandy land and from land of this kind I secured over three tons per acre at two cuttings last summer on a three-year-old field. Identically the same kind of land receiving the same treatment produced only one ton of clover hay per acre. I personally know of alfalfa fields in Michigan that have been producing profitable crops of three tons or more per year during the past eight years. I also know of one man in Wexford county who has never failed to get a good catch and a profitable crop. He has sown alfalfa nearly every year for eight years.

"Nearly all of the Western Michigan lands will produce a crop of alfalfa hay each year that is worth \$50 per acre if the land is properly prepared and the seed put in right. I believe with proper preparation that there is not as much risk of failure to get a catch with alfalfa as there is with clover."

POTATOES.

I do not believe this word will prove very attractive to the growers who have not sold their potatoes, ourselves included. Someway we can not help feeling that we have been held up a little by dealers who purchased their stock last fall and are bound to dispose of it without a loss, while the growers can lose what remains in their hands with the price in the cities still high enough so as not to materially increase consumption. It is not very encouraging labor to take potatoes from the cellar which had to be sorted in the fall after being put there on account of frost bitten ones among them, sprout them, and deliver them to the car, at ten cents per bushel. Yet, not all can be sold even at this figure.

We do not wish to be pessimistic, for if we had sold in the fall we would have come out well enough. We speculated, and lost. So did others. We might have gained.

But how about the next season's crop? We shall plant a little more than on last season, enough so we will be sure of having a carload, and hope to make up this season's loss. Perhaps we will fail again, but we certainly will not have as much tied up in the crop as we did last year, with 75 cent seed. One season is not a fair test for any crop. We will "try, try again."

S. B. H.

LILLIE FARMSTEAD NOTES.

Ralph Waldo Emerson says that the law of nature is compensation. We can apply this law to farming in a great many ways; it works out, and quite accurately, too. Apply it to the weather; if we have a cold winter, we should have a hot summer for we should get about the same amount of heat during the entire year. Apply it to the moisture; if we have a wet spring, we should have a dry summer and vice versa. Also, if we have a warm, early spring, then we are due for an early fall, and if we have a late, cold spring, then we would be due for a late fall. All of us have noticed that this law does work with more or less accuracy in all of nature's plans. Consequently, when we get such weather as we had this year in March, we may expect that later on we are going to have cold weather to offset that. March weather was too good to be true, or to be lasting. One variety of weather is advantageous for a certain kind of crop, consequently we do not expect to get a good corn year every year, or a good oat year, or a good grass year. What is ideal weather for one crop is not ideal weather for another crop, hence the general farmer, the man who raises all kinds of crops in this particular climate, is more apt to make a success, or in other words, he is apt to be more uniformly prosperous one year with another if he has a variety of crops, than if he pins his faith to one particular crop.

While March weather was warm and dry, it was not exceptionally good for wheat, the weather of the last few weeks has been more favorable and that crop has improved wonderfully. It has thickened up at the bottom and stood out and made a very good growth so that the wheat crop is much improved on the prospects of March. This is true of old meadows. The prospects are that we will have a fairly good grass crop. Clover has looked well from the very beginning.

This bids fair to be the banner oat season. The ground was in fine shape in March, the oats were put in early, and in good condition. They have made fine growth and everybody has a good stand and they look thrifty, and with anything like favorable conditions from now on, I expect one of the best yields of oats we have had in years.

What everybody wants in this section, and nearly every other section of the state is a splendid corn crop. That crop helps the farmer who keeps stock, probably more than any other crop.

I had high hopes that we could get our corn crop in this year in ample time so as to have it mature in September the way it did in former years. I was warranted in this because we had got along so nicely with the oat crop and had got the corn ground all fitted, but the heavy rains of recent date have delayed us very much. We have been unable to do much on the land and the result is that we haven't half of our corn crop planted yet and here it is the third day of June. The land is too wet to work for a day or two yet even though we have no more rain. Of course, there is one consolation and that is that the weather has not been favorable for the growth of the corn plant. Those who planted earlier are getting very little satisfaction out of their early planting. The corn crop with me is exceedingly important because I want to put up about 400 tons of corn silage for the cows and young stock, and besides I would like to have corn to husk for the horses and hens and hogs. I have to purchase over a car load of ear corn every year. This year I intended to plant about 65 acres and was in hopes that I would have a good enough crop so that I could reduce my feed bill in this direction quite materially. There is nothing, however, like having faith and I yet have faith that the season will work out all favorably for corn. I shall wait until the land is suitable to work, and then harrow it up again with a spring tooth harrow and trust to providence for the rest.

As I have stated before, I was not satisfied with the variety of corn I was raising, so this year I determined to make a variety test, and have procured from different localities four different varieties of corn and have planted them side by side. Then the balance of the area I intended to mix the varieties together, believing that cross fertilization may stimulate a better growth of corn and that I will have a better crop. It will do no harm at least to experiment some in this direction. The 20 acre field planted is the one where I am making the variety test and if this cold wet weather rots the corn, then my experiment will be all in the air. I hope, however, that while the cold wet weather has done it no good, the vitality of the corn is sufficient so that it will withstand it.

I have, I think, the best stand of sugar beets that I ever had. It is certainly as good as I ever had. I got them in the first week in May and the weather was favorable, the ground was well fitted, was well packed down and yet fine on top, we got the seed in shallow and yet well covered. I rolled the land with a corrugated roller after they were planted and then came favorable rains and we certainly have a splendid stand, uniform so far as one can see, on every square foot of land. You can see the rows clear across the field. They are plenty large enough to cultivate if the land was only dry enough, but it is entirely too wet. And while frequent cultivating earlier destroyed many of the early crops of weeds, the weeds are coming now and unless we can get on soon, in a few days there is going to be a battle royal to keep the weeds in check. With proper weather for a few days now we can conquer them without any doubt. I shall cultivate just as soon as the ground will permit and my intention is to harrow them crosswise with a spike-tooth harrow.

COLON C. LILLIE.

Exports of lard are on a scale not very far behind a year ago, and pork exports are larger than then, but there is a heavy falling off in bacon exports, and aggregate exports of provisions are much smaller than at that period.

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LIVE STOCK

LIVE STOCK AND SOIL FERTILITY.

Wherever one finds a farm upon which any branch of live stock production has been followed consistently for years, there he finds a farm which is producing good crops and which is owned by a prosperous farmer. On the other hand, where one finds a farm which has been devoted to the production of staple crops for sale year after year, he will, in a majority of cases, find a farm which is more or less depleted in fertility, and upon which the crop yield is gradually diminishing. This is a condition of affairs which certainly merits the careful attention of every farmer. This is true at any time, but it is particularly true at a time when the prices for agricultural products average high, as they do at present, which makes an increased yield mean a largely increased profit, and this particularly in view of the increased cost of labor and materials and the higher standard of living which a greater prosperity is making possible upon the farm.

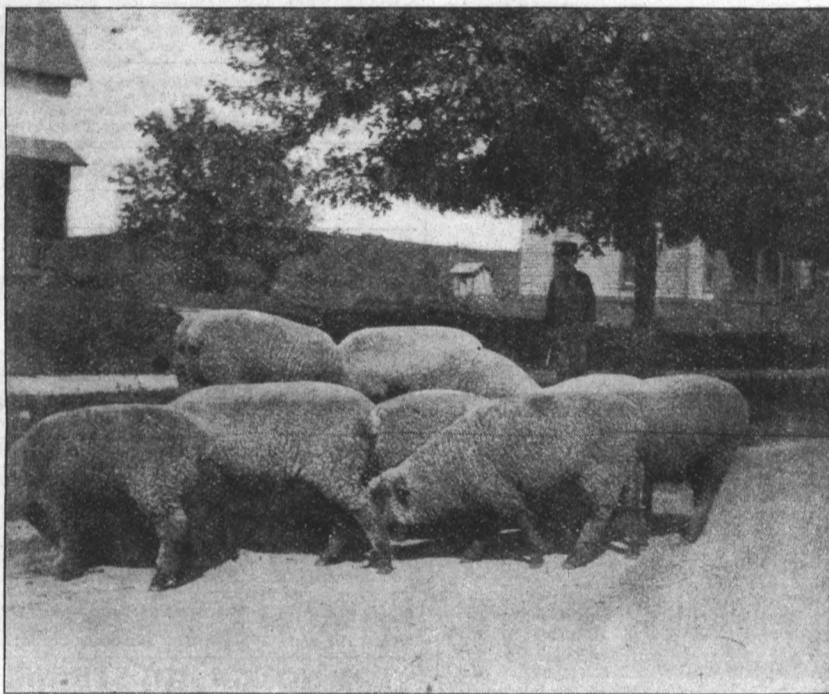
Now in the final analysis of this question, viewed in the light of the latest scientific research, it cannot be stated positively that if all the products of the farm are fed to live stock, and all of the manure returned to the farm, the fertility of the soil would be greatly increased. Indeed, it is the opinion of some of the most careful investigators that there would still be a gradual waste of the mineral elements of fertility, which must be supplied from some other source in order to permanently and actually increase the natural fertility of the soil. Nor can it be more truly said that the fertility of the soil cannot be conserved to a desirable degree by any other method of farming, supplemented by judicious fertilization of the soil by artificial means. But it can be said with entire truth that where live stock production, in some one of its numerous forms, is made a large factor in the production of the farm, the soil fertility will be conserved to a degree which is very seldom found with any other system of farming. The reason for this is so plain and apparent that as to need no elucidation here, and in most cases there is no doubt an improvement in available soil fertility which makes for a larger yield of crops under this system of farming where only the home-grown feeds are used. But in a still greater number of cases the actual fertility is increased by the use of purchased feeds with which to balance up and supplement the home-grown feeds in the production of live stock, and in this case the increased fertility of the soil is as much an added resource to the owner as is the bank account upon which he can draw for his immediate needs, and quite generally these two desirable assets will be found to go together.

But for the general farmer it is not desirable to feed all of the products of the farm to the live stock. Cash crops must be grown upon the average farm to supply needed revenue throughout the season, and the desirable degree of diversity which characterizes Michigan agriculture in general, and which makes the income from the farm safe and stable, is promoted thereby. But the trouble is that too many farmers fail to combine these two branches of farming to a desirable degree, and where they do are apt to fail in reaping a fair profit from the live stock end of their business. In talking recently with a farmer who makes cattle feeding a factor of his farming operations each year, the writer was interested in hearing from him a repetition of the common sentiment among cattle feeders with regard to the relation between the business and the fertility of his farm. He stated that he noted quite a difference between the yields which he gets on his farm and those which are secured by his neighbors who do not feed cattle and who are located on the same kind of land. He makes manure enough to cover his corn ground each year, and the following year sows this land to oats and feeds it to clover, and he stated that he has not had a failure with a catch of clover for years, while his neighbors all around him have had repeated failures with this important crop. The clover has enabled him to keep up the nitrogen and humus content of his soil, and at the same time keep it in a good mechanical condition, all of which are most important factors in maintaining soil fertility. Another farmer who is a large sheep feeder and who grows potatoes as a specialty, stated in a recent conversation, when asked how many po-

tatoes he planted, that he planted just as far as his manure would go, and then stopped. He handles the land in reseeded it to clover in the same way and with the same uniform success. Another farmer who is in the hog business tells a similar story, and so it goes. By a judicious system, in which live stock production or feeding is combined with the production of cash crops, these farmers, in common with hundreds of others in Michigan, have been able to keep the fertility of their soils at a maximum through the aid of nature, which is gradually making the stored up plant food in the soil available, while those who have neglected the live stock end of their farming have been drawing upon the available fertility of their soil without replacing it, and at the same time reducing its humus content and getting the land in a poor mechanical condition.

The Kind and Amount of Live Stock to Keep.

The farmer who comes to a realization of these conditions and resolves to make live stock a larger factor in the production of the farm before the fertility of his soil is reduced to a low condition, is confronted by the above consideration, and it is an important one. Too often we are apt to do things by extremes. Too many men come to the conclusion that if live stock is good for the farm, the more they have of it the better. In many cases this impression leads to the overstocking of the farm with even worse consequences than where not enough stock is kept. The pastures and meadows are



Well Bred and Well Fed Live Stock is a Source of Satisfaction and Profit.

grazed so closely that the ground is entirely deprived of cover, and future crops of hay and grass are thus impaired. Then there is little vegetable matter left to turn under in any case when the ground is plowed, and after a season or two of shortage of winter feed the owner comes to the conclusion that there is no money in live stock and sells off most of what he has, quite generally at a loss.

The great trouble is that this class of experimenters in the live stock business are men with little experience in the production or feeding of good live stock. Only good stock will pay on the farm, and then only when well fed. Just what stock can be well fed and no more should be kept upon any farm, and that without the "skinning" process which is above described. In fact, the pasturing of land with live stock is not a very good way to increase its fertility, even if not pastured too closely and where close pasturing is practiced it is an actual injury. This is true for the reason that the tramping of the land is generally injurious; and the droppings of the stock will not be evenly distributed over its surface. So if the cultivated fields are pastured, they should not be grazed too closely. But the greater profit from the stock will be derived from feeding up the coarse forage and hay produced on the farm and returning this to the cultivated fields in the form of stable manure. Winter feeding is very satisfactory when the feeders can be purchased, but this is becoming increasingly difficult and the time is rapidly approaching when this section of the country will be obliged to produce its own feeding stock. Thus the farmer who would develop the live stock end of his farming had better, in a majority of cases, at the outset at least, increase his production of live stock to the capacity of

his farm, rather than attempt to depend upon purchased feeding stock.

And right here comes in the question of the kind of stock to be kept. This will depend largely upon the local conditions and the tastes of the individual farmer in this direction. Generally speaking, the kind of stock for which the individual has a liking will be the kind from which he will derive the greatest profit, for the reason that it will be the kind which he will give the best feed and care. But whatever the kind of stock decided upon, every animal produced should be kept growing from birth to maturity without a break for best results. No feed can be wasted in simply maintaining life and the bodily functions or in overcoming a check in development and still make a profit from the animal.

Should it be pure-bred or grade stock? This is a question which is often asked by farmers who have recently become more interested in the live stock business than they have previously been. The writer's answer has always been, when asked this question: "Have you sufficient skill as a feeder to excel in the production of grade stock for the market? If so, go ahead with the pure-breds. Otherwise learn the business of feeding thoroughly before adding to it the complex problems of breeding, which are still more difficult to master and which cannot be carried to the highest success without skill as a feeder."

But there is need that hundreds, nay thousands of farmers in Michigan should wake up on this question; some who are not keeping stock enough, and more who

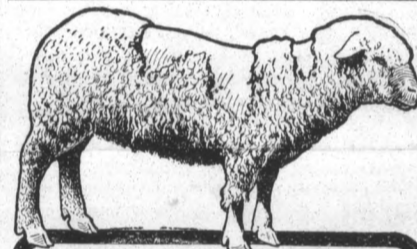
No Man is Stronger Than His Stomach



A strong man is strong all over. No man can be strong who is suffering from weak stomach with its consequent indigestion, or from some other disease of the stomach and its associated organs, which impairs digestion and nutrition. For when the stomach is weak or diseased there is a loss of the nutrition contained in food, which is the source of all physical strength. When a man "doesn't feel just right," when he doesn't sleep well, has an uncomfortable feeling in the stomach after eating, is languid, nervous, irritable and despondent, he is losing the nutrition needed to make strength.

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THE PORTABLE HOG HOUSE.

Many different types of portable hog houses have been described and illustrated in the columns of the Michigan Farmer, and used with success by hog breeders and feeders through the state. The type of portable house that is most suitable to the purpose will depend not a little on the breed of hogs which is kept. The larger breeds which generally throw large litters will need larger houses than the smaller breeds, but the same general requirements apply to all. One breeder of large hogs recently described to the writer a type of portable house which he has found to be most satisfactory for his use, after trying a number of kinds, and its advantages are so numerous that a description of it in these columns might be helpful to some who are in need of such addition to their equipment.

After considerable experimenting this breeder has come to the conclusion that a portable house seven by eight feet in size is about right for the larger breed of hogs. He makes them with a tight floor, using two cedar fence posts for the skids and framing three three by four inch scantling into these to make a foundation for the floor. He builds them with side walls, using two and one-half foot posts on each corner. The sides are double boarded with cheap lumber with paper between the boards, the joints of the latter being broken so as to make the houses warm. The roof is made to pitch both ways from a center ridge, and is covered

with good shingles. A 12x14-inch window is put in each end, and a door in one end, so arranged that the sows may be shut in at and immediately after farrowing time if the weather is such as to require it. An auger hole is bored close to the peak in either end to afford a circulation of air through the house, without providing sufficient space so as to lower the temperature of the house to an undesirable degree. These houses are banked up about the outside in winter so as to avoid a draught under the floors and make them too cold for the early farrowed pig.

This type of portable house makes a durable, strong, convenient and wholly satisfactory shelter for the sows and their pigs, and can easily be moved about as desired, with a team. This breeder stated that the lumber required to build a portable house of this size costs about \$10. The work can be done with the home labor in the winter or on stormy days in summer, as it can be constructed on the barn floor or in any other convenient place and moved to the desired location after it is built.

Portable houses of this kind are a very desirable addition to the equipment for breeding or feeding hogs. They are handy not only for use as farrowing pens, but as well for the housing of pigs of a like age and size after they are weaned or for moving into any convenient bit of good pasture as a temporary arrangement. Some prefer different types of portable houses, but whatever the type there are some general requirements that should be observed. One of these is a good tight flow. The pen without a floor is a nuisance as the dust causes all kinds of trouble with the hogs' respiratory apparatus and is a frequent conveyor of disease germs. When used for a farrowing pen a plank ledge or shelf should be made around the outside about eight inches from the floor to afford a safe retreat for the little pigs, which will save the loss of many a prospective porker. Then there should be provision for both light and ventilation. With these principles observed, it matters little what the type, so long as the portable house is large enough, substantial, dry and convenient to move.

AN IMPORTANT DISCOVERY.

For many years the state experiment stations, not to say thousands of live stock growers have given considerable attention to the injurious effect which often follows the feeding of cottonseed meal to certain kinds of live stock. The loss which has followed cottonseed meal feeding, especially with pigs and calves, has detracted greatly from the use which could be made of this exceptionally rich material. The subject has been studied from the standpoint of the chemist, the veterinarian, and the animal feeder. The symptoms of affected animals have been observed extensively; and a great variety of feeding experiments have been made with different mixtures and methods of feeding, in the attempt to get a clue to the nature of the difficulty and the practical means of avoiding or overcoming it. At an interesting stage in the study it would be found that the animals did not seem to be seriously affected by eating the meal in considerable quantities, and in certain localities injury was far less prevalent than in others.

This latter fact caused the Department of Agriculture to take up the question under Dr. John R. Mohler, of the Bureau of Animal Industry, the laboratory and pharmacological studies being conducted by Dr. Albert C. Crawford. Doctor Crawford finds the poisonous principle to be a salt of pyrophosphoric acid. Small amounts of this salt can be borne, he states, without injury. The amount of the salt which may be permitted in cottonseed meal should be determined. This discovery has suggested a line of study upon the relation of the character of the soil, etc., to the production of the poisonous body in cottonseed, the part which fertilizers may play, the influence of micro-organisms, and an inquiry as to whether the pyrophosphoric acid is derived from the soil or is due to a physiological process in the seeds.

There seems to be no doubt of the correctness of the results obtained by Doctor Crawford, for not only have elaborate and systematic studies been made in the laboratory, but the Bureau of Animal Industry made a test of the theory by conducting experiments with pigs.

Washington, D. C.

G. E. M.

The "tenant farmer" condition in America, and how he could be induced to take up the production of improved do-

mestic animals with the view to increasing the yield of food products from our American farms, is a subject that will be given the encouragement and full support of the International Live Stock Exposition in the future.

LIVE STOCK NOTES.

William Dietrich, of the Illinois Experiment Station, who marketed recently a car load of test hogs at the Chicago stock yards, says that the phenomenally high prices paid for hogs during the last few months have stimulated breeding interest to a great extent, and the farmers' prosperity will be greatly enhanced thereby. "Down in our country," says the professor, "the demand for brood sows is keen, and even the sow pigs, where they can be bought, are being taken liberally by farmers at high prices. All over the middle west there is a movement under way for conservation of the brood sow crop as a first aid to the hog shortage matter which has confronted the country for the last six months, and the outcome of this wise move by farmers will be a liberal increase in hog production within another year."

Heavy truck mules are attracting more attention in the Chicago market, and several days ago a local commission firm paid \$1,550 for four fancy mules. The export trade in horses is a small affair most of the time on account of the unusually high prices that prevail, but a short time ago a few light harness horses were purchased at Chicago for export to Europe at an average price of \$350. Saddle horses are unusually active just now, and recently a consignment of gaited Missouri-bred saddlers brought around \$175 a pair, with the demand greater than the supply.

The weather of late has been uncertain, and occasionally it has suddenly changed from cold to hot weather with no warning. At such times hogs shipped to market in crowded cars have fared badly, and it has been not unusual to take one or two dead hogs from a car at the Chicago stock yards, while in some instances dead hogs have been numerous. These times every dead hog means a big loss to the owner, and hogs should not be cramped for space, causing them to smother from crowding and piling on each other. Country shippers who give hogs plenty of room in the cars find that it pays.

George Cross, of Iowa, said recently that he was feeding about 300 head of cattle, his practice being to furnish corn, alfalfa and a small amount of red clover hay. He breeds about 100 Angus cattle every year, besides fattening stock cattle that he buys in the market. Mr. Cross bought land in Iowa in 1869 at \$5.50 an acre that is now salable at \$200 an acre.

The eastern demand for milkers and springers in the Chicago stock yards has fallen off materially recently, and prices have slumped as much as \$5 to \$7 per head for the greater part of the cows sold, with some sales fully \$10 lower than a month ago, when trade was lively. New York and New Jersey orders have been very limited, and not many cows have gone to Ohio. Before long it is probable that backward springers will sell to better advantage than forward cows, but of late packers have taken springers at higher prices than the milk dealers would offer.

Packers have been buying some of the heavier feeding cattle offered on the Chicago market recently, the country demand falling off a good deal, because farmers were busy with their corn planting.

Trouble has been started between the Chicago packers and the dealers in butter on the Elgin butter board, and threats have been made by butter brokers that they will boost the price of butter to 40c a pound before the last day of June, and if this does not force packers to break their contracts, that they will raise the price to 50c. The trouble was started by the failure of the packers to place their usual spring orders with the brokers, it having been their custom to buy all butter for storing purposes through local brokers. This year packers sent their representatives to treat directly with the creameries, and it is said that they placed contracts for 300 to 400 cars of butter to be delivered in Chicago before the last day of June. The price agreed upon is said to be half a cent a pound less than the Elgin quotation laid down at packers' plants in Chicago. The brokers are aroused over their loss of commissions and have bonded together and secured the support of the Elgin creamery men to make the packers pay high prices for their supplies. Chicago butter merchants are not in sympathy with the brokers and were the only ones who opposed the latter when an advance of a cent a pound was made in the Elgin price. It is claimed that the packers have contracted for butter that is not prime in quality.

Cattle fed on corn silage have been making a good account for themselves in the Chicago market of late, and six lots of steers fed in that way at the Indiana agricultural experimental station sold there recently at \$7.90 a head per 100 lbs., showing profits of \$12 a head in 100 days. At that rate fattening cattle on corn silage is highly profitable. A live stock journal says: "By the corn silage system millions of tons more feed would be available annually and the feed bill reduced correspondingly. For the benefit of the uninitiated it may be said that when corn is silaged it is cut in the milk stage, chopped fine, ears, fodder and stalks, and packed into air-tight receptacles, constructed of wood, cement or brick. Cattle eat the stuff greedily and fatten rapidly on it. General use of the silo will double the feeding capacity of corn belt land, greatly enhancing its value."

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Importers and breeders of

Belgian & Percheron Stallions and Mares.



Our last importation arrived last November, and are in a very good condition and of the VERY BEST TYPICAL DRAFT QUALITY. We have over 60 head of Stallions and Mares from two to five years for sale, and we invite prospective buyers to come to our barns where he will find THE IDEAL DRAFT HORSE, of both breeds above mentioned. Our terms are liberal, and every sale is backed up with the best of guarantees.

Write, or better—come and see us. Address FRISINGER & SPRUNGER, Decatur, Indiana.

REGISTERED PERCHERONS For Sale—1 mare 2-yr-old & 1 Stallion 1-yr-old, grays, Stubbled Register. M. A. Bray, Okemos Ingham Co., Mich.

I HAVE FOR SALE a registered Percheron yearling June 11th. Sired by Brilliant IV 47531 (61771) and out of HAZEL KIRKE 33998. Bell Phone 124-2. WELLS W. GARDNER, Fenton, Mich. R. R. No. 2.

For Sale—Horses, Cattle, Sheep, Hogs, Dogs or Poultry, nearly all breeds. Stires exchanged. Southwest Michigan Pedigreed Stock Association, R. E. Jennings, Sec., Paw Paw, Mich.

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Herd headed by UNDULATA BLACKBIRD 1700 \$3336, one of the best sons of PRINCE ITO 50066, and Grand Champion Bull at the Detroit and Grand Rapids Fairs of 1907, 1908 and 1909. Herd consists of Ericsas, Blackbirds, Prides, etc. WOODCOTE STOCK FARM, Ionia, Mich.

Ayrshire Bull Calves. Berkshire swine. Eggs for setting. High bred stock. White & Buff Oringtons, White & Barred Rocks, Light Brahmas, White Leghorns and White Wyandottes \$1 per 15. Mich. School for the Deaf, Flint.

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Top Notch registered young Holstein Bulls combining in themselves the blood of cows which now hold and have in the past held World's Records for milk and butter-fat at fair prices. McPHERSON FARMS CO., Howell, Mich.

CHOICELY BRED HOLSTEIN-FRIESIAN Bull Calves prices. Cole Bros. Ypsilanti Farms, Ypsilanti, Mich.

HOLSTEIN FRIESIANS—Bull calves. Herd headed by Canary Mercedes Royal King. W. B. Jones, Oak Grove, Mich.

5 Holstein Service Bulls For Sale. Any one of which have breeding and individuality that qualifies them to head any herd. Bull calves and a few good cows. L. E. CONNELL, Fayette, Ohio.

HOLSTEIN BULL CALF from two best families of the breed. C. D. WOODBURY, Lansing, Michigan.

HEREFORDS;—Both sexes and all ages for sale. Also Poland-China hogs. R. E. ALLEN, Paw Paw, Mich.

LILLIE FARMSTEAD JERSEYS We have some splendid young bulls for sale. Some of them are old enough for service. They are from cows with records of 300 to 425 pounds of butter last year. Write for description and prices. COLON C. LILLIE, Coopersville, Mich.

JERSEY BULL CALF born October 4th '09. Dam gave 9,386 lbs. milk in one year, test 5 to 5½%. Sire's dam's record 10,060 lbs. milk in 10½ months test 5 2-10 per cent. The Murray-Waterman Co., R. D. 6, Ann Arbor, Mich.

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AUCTION—Closing out Linden Lea Jersey Herd, JUNE 14th. Catalog free. H. S. CHAPMAN, Cassopolis, Michigan.

FOR SALE—Jersey Bull Calves from 3 to 9 mos. old. Fine thirty fellows and from extra good cows. A. Newman, Mariette, Mich. R. F. D. No. 1.

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

Register of Merit Jerseys. Official yearly records. T. F. MARSTON, Bay City, Michigan.

NORTHERN GROWN JERSEYS WITH BIG MILK RECORDS. TUBERCULIN TESTED BY STATE VETERINARIAN. ROYCROFT FARM, Sidaaw, Mich.

BIDWELL STOCK FARM. FOR SALE—10 Reg. Shorthorn Bulls.

All good, reds and roans, from 12 to 24 months old, from the best of breeding at \$75 to \$125 each. Some of them Scotch and Scotch-topped, of the herd heading type. Also, young cows and heifers, all ages. Fifty head in herd. Farm—Two blocks from Lake Shore Station. L. I. BIDWELL, Tecumseh, Michigan.

SHORTHORN cattle of both sexes at reasonable prices. 1 breed for both milk and beef. Come or write. T. M. SOUTHWORTH, R. No. 13, Box 73, Allen, Mich.

SHEEP.

Oxford-Down Sheep and Polled Durham cattle for sale. A. D. & J. A. DeGARMO, Mulr, Mich.

OXFORD DOWNS A few good field rams for sale. H. J. De GARMO, R. No. 1, Clyde, Mich.

PARSONS OXFORD RAMS

also R. & C. Am. Hornless Delaines grade X \$15; XX \$20; XXX \$25. Romeyn C. Parsons, Grand Ledge, Mich. Michigan's largest breeder of good sheep.

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Will import one hundred yearling ewes and 15 rams in June for Michigan and the same for Boise, Idaho. Branch of this Farm. Will make a fair price on yearling ewes or rams, also on some aged ewes with lambs at side, for 60 days. L. S. DUNHAM & SONS, Concord, Michigan.

130 Reg. Rambouillet Ewes for sale, descended from the best flocks and bred to a pure Van Horney and a ram sired by a Gilbert ram and imported dam. All in perfect health. In lots to suit buyers—none reserved. J. Q. A. Cook, Morrice, Mich.

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LARGE ENGLISH BERKSHIRES.

Have fine lot of spring pigs of both sexes. Few young sows for fall farrow. Vigorous and strong, the type for profitable pork production. Satisfaction guaranteed. F. A. BYWATER, Memphis, Mich.

HUPP FARM BERKSHIRES!

WON 150 PRIZES IN 1909. Stock of both sexes and all ages for sale. Breeders of Guernsey Cattle, M. B. Turkeys, Barred Rock Chickens, Pekin Ducks. GEO. C. HUPP, Mgr., Drawer A Birmingham Michigan.

BERKSHIRES Unexcelled in breeding. Selected boars, sows and gilts. Choice fall pigs. T. V. HICKS, R. No. 11, Battle Creek, Mich.

HIGH CLASS LARGE ENGLISH BERKSHIRE PIGS, either sex. W. J. ROSS, Rochester, Michigan.

BERKSHIRES of the most fashion able type and strains. C. S. BARTLETT, Pontiac, Mich.

NORTHERN GROWN BERKSHIRES.

ROYCROFT FARM, Sidaaw, Mich.

Berkshire—A few choice fall gilts bred for early farrowing and a choice lot of Spring Pigs with prices right and the right breed. A. A. Pastullo, Deckerville, Mich.

DAMS BROS. Litchfield, Mich., breeders of Improved Chester White and Tamworth swine. Pigs, either bred, by 1st prize State Fair winners. Red Rock, Buff Wyandotte eggs \$1 per 15; W. Orpington \$3 per 15.

Improved Chesters—Sows bred for Aug. and Sept. farrow, either sex also W. Wyandotte Eggs \$1 for 15. W. O. WILSON, Okemos, Mich. (Both Phones).

PURITAN HERD OF CHESTER WHITES The peer of any in America. Spring pigs for sale. WILL W. FISHER, Watervliet, Michigan.

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DUROC JERSEY HOGS of all ages for sale. Pigs in pairs not akin, ready to ship. Mendowbrook Seed Farms, Williamsport, O.

DUROC JERSEY SWINE. Shepherd Dogs. B. P. Rock eggs, \$1 for 15. J. H. BANGHART, Lansing, Mich.

WALNUT HILL FARM Hard of Durocs. Bred sows all sold. 35 fine fall sows, 15 fine fall boars ready for service. 100 spring pigs to date. Write J. C. Barney, Coldwater, Mich.

O. I. C. bred sows all sold. Have a few hand. GEORGE P. ANDREWS, Danaville, Mich.

O. I. C. REGISTERED PIGS, 10 to 12 weeks from World's Fair winners. Glenwood Stock Farm, Zealand, Mich. Phone 94.

O. I. C.—Orders booked for spring pigs from State Fair winners. C. J. THOMPSON, Rockford, Mich.

O. I. C. Spring Pigs For Sale, 14 choice boar pigs and 17 choice sow pigs. Satisfaction Guaranteed. Fred Nickel, Monroe, Mich., R. No. 1.

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HEAVY BONED POLAND-CHINA PIGS at reasonable prices. Eggs from big business Barred Rocks \$1 per 15. ROBERT NEVE, Pierson, Mich.

MICHIGAN'S GREATEST HERD of big Poland-China Hogs. Big Bomed, Long Bodied, Big Litters. The farmers' hog. A bigger, better and more profitable Poland-China. Write for what you want. Bell phone. J. C. BUTLER, Portland, Mich.

FOR SALE—4 P. C. boars ready for service. Eggs for hatching & prize winning Regal White & Columbian Wyandottes, Zach Kline, Three Oaks, Mich.

LARGE TYPE POLAND-CHINAS—Largest in Mich. Booking orders for pigs to be shipped at 4 to 5 mos. of age. Write for weights and measurements. W. E. Livingston, Parma, Mich.

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POLAND-CHINAS—Fine lot spring pigs now ready to ship. WOOD & SONS, Saline, Mich.

P. C. PIGS Singly or in pairs not akin. Minorca eggs \$1.50 per 15. R. W. MILLS, Saline, Michigan.

Poland Chinas—Boars, Gilts and Pigs of quality at the right price. B. M. WING & SON, Sheridan, Michigan.

Large Improved English Yorkshires.

The hogs that make good. September gilts bred to farrow next August or September. Spring pigs of either sex. Pairs not akin. Satisfaction guaranteed. COLON C. LILLIE, Coopersville, Mich.

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

DAIRY CAPACITY.

Every dairy cow has an inherited tendency of function, or dairy capacity, to produce milk and its derivatives. To develop this inherited capacity to its most profitable limit should be every dairyman's foremost professional object. His largest returns lie in this endeavor. Any man open to conviction can be shown to his entire satisfaction that his net profits can be substantially increased by having cows that have been fed and developed on a variety of feeds that will promote their best and most useful development.

There is probably no question that is any more perplexing than the subject of growing and feeding dairy heifers to secure their most useful development. There is a wide diversity of opinion among the leading dairy authorities as to the kind of feeds best adapted to promote the desired development. One class of dairymen believe that by feeding the heifers a highly nitrogenous ration they will secure a more rapid development, which is undoubtedly true. However, it has always been a question in the writer's mind if such forced methods of feeding and unnatural development is desirable. Is it possible for a man to grow and develop his heifers on such nitrogenous feeds and at the same time develop their capacity to eat, digest and assimilate large quantities of succulent and bulky farm feeds? Let me suggest where we may drift if we do not consider these matters more carefully.

In many localities in the eastern states, where roughage is scarce the cows have been kept on concentrated rations for so long that they have lost their capacity. Some dairymen in these localities feed as high as four to six pounds of digestible protein a day to each cow. Good, succulent and bulky feed is scarce and they have fed these highly concentrated by-product feeds in an effort to piece out, not supplement, their farm-grown feeds. Now they have cows without capacity for taking their farm-grown roughage and turning it into profit for them. This is where we may all drift if we do not develop our dairy heifers on more bulky rations. Their digestive systems will not be developed for economical production. With high-priced grain feeds we must have cows that are capable of taking our feed, our roughage and some grain, and turning it into profit for us.

If we secure economical producers of dairy products the young heifers must have certain conditions surrounding them if they equal, or excel, their dams. They must have liberal rations from the start, not heavy concentrates, but feeds rich in bone, muscle and blood-making material and containing plenty of bulk and succulency. Good corn ensilage is an excellent bulky and succulent feed. Clover, alfalfa and mixed hay will make up the balance of the roughage. These bulky feeds supplemented with a very small quantity of oats and wheat bran will make up a ration that cannot be excelled for developing the young heifers. They must have plenty of light, air and exercise if they build up healthy and vigorous systems. Nature's laws cannot be ignored in developing the heifers. The man who replaces the cows in his herd with heifers that have been developed on highly nitrogenous feeds and kept in close confinement, away from sunlight and fresh air, will find his herd constantly losing in vitality and reproductive qualities. The vital organs must be developed by plenty of pure air and exercise, which at the same time increases the appetite. Then the digestive organs and functions must be developed by plenty of nutritious bulky and succulent feeds and grain to balance it.

The value of the dairy cow should be measured by her ability to produce dairy products economically. Many large producers are not economical producers. My point is that the heifer that is grown in the open with exercise and plenty of good bulky and succulent feed to extend her capacity and develop her digestive system, begins her life work under more favorable conditions than the heifer that has been grown inside and been fed a highly concentrated ration of by-product feeds to stimulate an abnormal development at too early an age. Am I right or wrong?

After we have developed the heifer's capacity to eat, digest and assimilate large quantities of feed the next important step is that of educating and training

her to take her place as a member of the working herd. Place her in a box stall two or three weeks before she freshens. Handle her frequently, but do not actually start her milk. Drop off pretty well on her grain feed and give her udder frequent greasing with lard to prevent chapping and keep down the fever. Kind treatment and careful handling and getting her accustomed to your company is a great thing for a heifer at this period.

After the calving period is safely over go slow in adding to her grain ration and do not overfeed her. Regulate the amount of feed by the quantity and quality of milk she gives. She needs to grow more and develop better. It is best not to have her freshen again inside of fourteen or sixteen months. Milk her at least twelve months to develop the long milking period and see to it that she gives milk for the whole year. The training she receives during the first milking period has a great influence upon subsequent periods. The man who has charge of the heifer during her first milking period has largely to do with her future usefulness. It is no chance operation, as many seem to believe. The profitable dairy cow of the future must be bred, developed and trained on the farm and in the best accepted ways. The heifer that is well born, well cared for and properly fed with the proper kind of feeds at the right time and in the right amounts and given proper training will be far more profitable as a dairy cow than the heifer that has been improperly fed and managed during the first three years of her life.

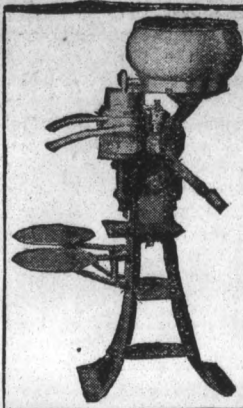
New York. W. MILTON KELLY.

ROBBER COWS.

A popular edition of bulletin No. 322 of the Geneva experiment station should be in the hands of every dairyman in the state of Michigan. In fact, it should not only be in the hands of every dairyman, but it should be thoroughly read by every dairyman because it furnishes the key-note to successful dairying. It emphasizes particularly the importance of studying the individuality of individual cows in the herd. The author makes the statement that the greatest loss incurred by the average dairyman of today is the fact that there are greater or less numbers of cows that are unprofitable. If not unprofitable, yet they produce little profit and there is so much difference between the profit of the poorest cow and the profit of the best cow that there is great chance for economy in production by a selection of more profitable cows and the rejection of the unprofitable. While there are other factors that enter into the profits of dairying, such as feeding and care, etc., there isn't any doubt but what this idea of the individuality of the cow is of great importance and one that ought to be taken into consideration by every farmer who keeps cows. Practically the sole idea of the cow testing associations is based on this idea. The idea is for the farmer to know his cows, to know which are profitable and which are not, to know which one produces the most milk and which one produces the least milk.

It seems strange that so many farmers need urging and coaxing to join a cow testing association, after this fact of the individuality of each cow is explained. There are some things in this world beyond our comprehension. I know of farmers in this neighborhood, who have belonged to the cow testing association and have had it proved to them by actual test that a number of cows in their herd were unprofitable, and that others in their herd were quite profitable, yet they declined to be members of a cow testing association a second year. They did not seem to care to know whether their cows are producing them a profit. It is either that or else they are mortified by the knowledge they gain from the records of each individual cow. After they know that there is a great difference in the individuality, and realize that it would be the best thing they could probably do to get out some of their poorer cows and cull better ones in their places, or even keep fewer cows, yet after knowing this, they refuse or decline to continue as members of a cow testing association.

This bulletin gives the figures of the Geneva station for 19 cows. The 19 cows for the last year averaged 6,369 lbs. of milk in a year, or 338 lbs. of butter-fat. This certainly indicates a good herd as the average for the whole state was less than 4,500 lbs. of milk per cow. Now the best cow in the herd gave 10,150 lbs. of 4 per cent milk while the poorest cow gave only 3,350 lbs. of 5.85 per cent milk. That is, the best cow gave three times as much milk, or three times as much butter-fat,



SWEEPING THE FIELD

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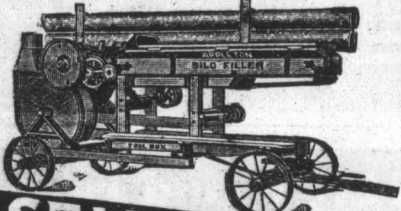
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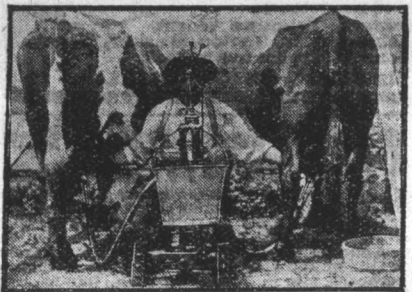
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THE MICHIGAN FARMER, Detroit.

and the feed for the best cow cost only one-tenth more than for the poorest cow. If the poorer half of the herd the first year had been as good as the better half, it would have increased the dairy revenue \$237.40, if milk had been sold at shippers' prices, or \$379.90 if butter-fat had been marketed, with no added expense except \$40 for feed. This is just the kind of practical information that every dairyman should know about his herd and after he ascertains this information, then it is his plain duty as a business man to gradually get rid of the less profitable cows, and substitute more profitable ones, or keep fewer cows.

CREAM TESTS VARY.

The man who buys cream and tests it to know what he should pay the seller for it, is the target for innumerable complaints because of the tests varying. Now when a man has a cow or cows that are kept under the same conditions, milked by the same man, fed the same variety and quantities of feed, he is pretty apt to reason that the tests of milk for butter-fat ought to be the same. But when he delivers the cream to the creamery he finds a discrepancy between the different tests. Surely the creamery man is to blame, or his tests are not accurate. If another buyer comes along and wants the cream he is pretty sure to find a listener, should he accuse the other buyer of not being honest in his tests. But is the man who tests the cream at fault? Not always. At the Iowa station this matter was tried out and it was found that in separating the cream there were conditions that caused the per cent of butter-fat in the cream to vary. These conditions were as follows:

1. Change in the speed of the separator is the most common cause of variation. The greater the speed of the separator, the smaller the amount of cream and the higher the per cent of fat.
2. Again, the temperature of the milk separated varies on the farm from day to day. If cream tests 30 per cent when the milk is separated at 90 degrees, it may test as high as 40 per cent when separated at 70 degrees. Under average conditions on the farm, however, the variation in fat due to change of temperature will not amount to more than 3 or 4 per cent.
3. A third cause of variation is found in the rate at which the milk flows into the machine. If less than the regular quantity flows into the bowl, the tendency is to increase the per cent of fat in the cream.
4. The richness of the milk separated affects the richness but not the quantity of cream. The richness of a cow's milk depends on inheritance and can not be changed permanently by feed.
5. Small variations are likely to occur from the other causes. By the use of an ordinary Babcock testing machine and by measuring the sample of cream into the test bottle with the same pipette as is used for measuring milk, any farmer can make a test of his cream that will satisfy him as to the accuracy of the test he receives from the cream buyer.

CARING FOR THE COW PASTURE.

The dairy farmer has too great objects before him, the production of a pure product and the reduction of cost. Both of these objects are favored by having a good pasture. Most pastures could be improved. The work required to make improvements would be many times repaid by the increased feed and its enhanced palatability. A little time with the scythe or mowing machine will get rid of unsightly weeds that, if eaten by the animals, taint the milk besides crowding and shading the grasses. As most pasture lots have low places in them the introduction of tile drains will accomplish great good in making the low places, that are either barren, grown up to wild grasses, or crowded with weeds, the most luxuriant spots in the field. The drain will be paid in a single season and after that the results will constantly increase in value. Scarcely a person thinks of fertilizing the pasture. The application of barnyard manure will help as well as when applied to the annual crops; and commercial fertilizers have a place in the pasture lot as they do in the regular farming operations. Still another practice that will enable the dairy farmer to reduce the cost by growing more food upon his pasture lot is in the renewal of its grasses. If the land is drained and fertilized, then by the introduction of new grasses the pasture can be made more abundant and be extended over a larger portion of the summer. And yet again, move the cows from one lot to another.

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.

By keeping away from her as much as possible, she will gradually become quiet. Some mares are inclined to be overly watchful of their colts. When you approach her take a whip with you and if she shows any disposition to fight you, give her a good sharp stinging blow and that will perhaps be all the drilling she will require. Firmness on your part will go a long way toward subduing her.

Eczema.—Driving mare that I bought last spring is in good condition, but she is troubled with a slight skin eruption and is inclined to itch. E. D. J., Ithaca, Mich.—Apply one part bichloride mercury and 500 parts water to itchy parts of body once or twice a day. She should be washed with suds made of Ivory soap, adding 1 oz. borax to every quart. Also give 2 drs. Donovan's Solution arsenic at a dose in feed three times a day for 20 days.

Snagged in Ankle Joint.—I have a horse that was snagged in ankle joint, which did not appear to show any lameness, but the joint swelled and has remained swollen ever since. Recently the joint became inflamed and broke on one side, now the horse is very lame and unable to walk. G. A. M., Park Lake, Mich.—Apply peroxide-hydrogen to wound twice a day. Ten minutes after each application apply one part carbolic acid and 30 parts water. Give 1 oz. hypo-sulphite soda at a dose in feed night and morning.

Bog Spavin—Thoroughpin.—Have a two-year-old colt that is troubled with bog spavin and thoroughpin; at all events our Vet. says so. What had I better do for him? W. A. W., Ithaca, Mich.—Bog spavin and thoroughpin when on a work horse and producing no lameness should be left alone, but when on a colt an effort should be made to reduce the swelling. Fairly good results follow daily applications of equal parts spirits camphor and iodine, or blister with cerate of cantharides, or blister with any one of the blisters advertised in this paper; however, you should bear in mind that an ailment of this kind is very difficult to cure.

Navel Infection.—Our three-year-old colt has a swollen leg causing him to travel stiff, and I might say that his navel has never healed. W. J. N., Nashville, Mich.—Apply one part carbolic acid and 30 parts water to navel twice a day. Also apply some boric acid after using the lotion. Apply one part alcohol and three parts warm water to swollen leg three times a day. Had you treated the navel soon after birth his leg would not have swollen.

Blood Poison.—I have a mare colt eight days old that was smart up to third day, but since it seems to be weak and its joints, and especially the hock, are swollen. E. W. L., Tawas City, Mich.—Apply equal parts powdered boric acid and iodine to umbilical opening twice a day. Give 10 grs. hypo-sulphite soda and three grains quinine at a dose in feed or water twice a day. Apply one part alcohol and three to five parts water to swollen joints once or twice a day.

Warts on Teats.—Please tell me how to remove warts from a cow's teats, and I also would like to know the price of milking tubes for hard milkers. H. D., Brown City, Mich.—Clip off the long warts with a pair of scissors and apply one part chromic acid and five parts of water. Or apply acetic acid once a day. This is a safer remedy than the chromic acid. Also give the cow a teaspoonful of sulphur at a dose in feed night and morning. A 3½ inch milking tube costs 35c delivered, and a 3-inch, 30c.

Cow Does Not Come in Heat.—I have a heifer that came fresh March 1, and so far she has not come in heat. What had I better do for her? W. P., Dryden, Mich.—Give her 15 grs. powdered cantharides at a dose in feed night and morning and she will perhaps come in heat soon after warm weather sets in.

Obstructed Teat.—There is a small bunch on the end of my cow's teat which prevents the free flow of milk. I find it impossible to milk her with a milking tube. This same cow is inclined to kick when I milk her. W. H. W., Lowell, Mich.—The little obstruction on the end of teat should be removed with a knife, then she will get all right; until this is done the milk flow will be somewhat obstructed.

John Finger, Sr., Prescott, Mich.—From the fact that three of your cattle died suddenly without any symptoms of disease when you opened them, except that they bloated a great deal I would be inclined to think that they were either poisoned with drugs or suffered from food infection, bringing on acute indigestion.

Blocked Quarter.—For the past three weeks I have had trouble to draw the milk from one quarter of my cow's udder. Have been using a milking tube but even now I am having trouble to get much milk from her. I am inclined to think that she is going to lose that quarter as she is gradually drying. Also having trouble with our young chicks; they seem to be troubled with leg weakness. We have lost 25 out of 80. J. W. S., Hudsonville, Mich.—Apply one part fluid extract of phytolacca and four parts vaseline to diseased quarter every three days.

(Continued on page 607).

EFFECTUAL

The most effectual remedy in use for the cure of ailments of horses and cattle is

GOMBAULT'S CAUSTIC BALSAM



Used as a Blister or Lotion.

This preferred remedy is prepared exclusively by J. E. Gombault, ex-Veterinary Surgeon to the French Government Stud.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address
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The Standard Veterinary Remedy. 30 years sale. Send for booklet.



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The Great Worm Exterminator for Worms in Horses, Sheep, Hogs and Cattle.

Regulates the Stomach, Kidney, Liver and Bowels. Put up 5 lbs, 25c; 10 lbs, 50c; 20 lbs, \$1; 50 lbs, \$2.50. Ask your dealers everywhere.

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Do you know that your animals are taking up from the pasture the germ or egg of the worms that will breed and develop during the winter months. Kill the germ in the stomach, this can be done by feeding H-E-C Medicated Tonic Stock Salt in the pasture. For sale by all Grocers and Druggists
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HORSES

Always mention the Michigan Farmer when writing to advertisers.

HORTICULTURE

RASPBERRY ROOTS DISEASED.

Is there any remedy for black-knot in the roots of raspberries, as I have a patch that was planted five years this spring? I have had four good crops of berries but black-knot has attacked the roots and I will have to plow them up. Is it advisable to reset another patch from sets from this patch? The berries are of the Cuthbert variety. Are there any other kinds that would not be affected with knot? I have a nice gravelly soil.

Tuscola Co.
W. H.

The disease which our correspondent describes as black-knot is undoubtedly what is generally called crown-gall. This trouble is very widely known. In Germany it gives the small fruit growers much trouble and is designated as "Wurzelkropf." In California and other Pacific states the disease not only attacks the brambles but fruit trees in the orchards are assailed. On the raspberry the disease produces a rough, knotty growth on the crown and has a granular appearance. When the growth becomes old it turns black in color and is not unlike the appearance of the black-knot of plums which undoubtedly led our correspondent to so determine it. The disease has been studied and found to be one of the slime-molds, a very low order of plant life, and it is transmitted by a micro-organism, carried from the affected plants to others by wind, cultivation, irrigation and other mechanical means. Because of this contagious nature of the trouble it would be unwise for our inquirer to replant the same ground to raspberries without the intervention of other crops to destroy the life of this micro-organism. The disease often comes in shipments of nursery stock and where it is found on any of the samples it would be better to do away with the whole shipment than to take any chance with the disease. Neither would it be advisable to use sets from this plantation for starting a new one. We would recommend that Mr. Harmon get plants elsewhere and use this ground for a few years for other purposes. With trees, western growers have found that the disease can be kept in check by the application of a paste made of two parts blue-stone, one part copperas and three parts quicklime. The galls are removed and the exposed surface painted with this preparation. The writer is not aware of any varieties that are particularly immune from this disease.

GARDEN EXPERIENCE.

The Use of Sulphur on Seed Potatoes.

In your issue of Feb. 12, 1910, Mr. J. E. Morse, in his article, "Some Potato Notes," speaks of the use of sulphur. Could he not tell us how he uses it and the quantity?

Oakland Co.

E. L. P.

It may be counting victory without hosts to say that sulphur will prove helpful in controlling blight; but as yet I am fully persuaded that such is the fact. I also believe it to be nearly or quite as effective in scab as is the corrosive sublimate solution. It certainly preserves the seed from decay for a long time, which I believe to be helpful, especially in wet, backward seasons. It is no uncommon thing to find the seed in perfect condition at digging time, and I have never been troubled with scab to any appreciable extent when I have used it.

But as to the means of using it, that is very simple. I prefer to cut the seed only as fast as planted so that it shall not dry out, but be freshly used. I usually drop from pails, sprinkling the sulphur on top of the pile of seed. As the pieces are picked out the sulphur works downward and adheres to the freshly cut seed. A more thorough way, however, is to pile or spread the seed on a clean floor and sprinkle it slightly, just enough to dampen it, then sprinkle the sulphur on and stir the potatoes until they are slightly covered. Apply it in any convenient way so that the seed is thoroughly covered. See that the pieces are well covered and that will readily determine the quantity to use. A large or small quantity can be treated at once, and the cost is little.

Economizing Space.

In view of limited area and the woefully high price of team work we are this year practicing the intensive methods of gardening more than ever. Our first sowing of peas, Earliest and Best, were sown late in March and were cultivated and hoed for the first time on April 14. At this writing, May 24, they are looking as fine as one could wish and are coming into bloom. We must plead guilty to neglecting their proper culture, else we be-

lieve they would have been easily a week in advance of what they now are. Urgent business from home took our entire time for a month and garden work of all kinds had to go by default.

The peas being half dwarf in habit were sown in drills 20 inches apart. Their upright growth gave opportunity to utilize the space between rows so we transplanted tomato plants in each alternate row. The plants are in bloom now to a considerable extent but what the harvest will be depends much upon the caprice of Jack Frost. A visit from him would scatter consternation among the tomatoes and should they get caught we must console ourselves with the thought that we have more with which to replace them. If they pull through they ought to fruit very early and that will doubtless compensate for the worry about Jack's tricks.

At their present pace the peas should be out of the way before the tomato vines will require the room, and anyway, once started they will pull against pretty heavy odds. The vacant pea rows will be used for lettuce and radishes just as soon as the ground dries sufficiently from the recent down-pour of rain to be workable.

Our first sowing of radishes came into use May 4, but absence from home and the recent heavy rains have delayed making other seedlings, so now we are at the jumping off place and so must stay our appetites for the succulent radish until they have time to grow. That will not be for long, however, for with fair conditions we can grow them ready for use in 15 to 20 days.

Testing Tomatoes.

For a long time we have been on the lookout for the earliest maturing tomato that could be found; and to this end we have gathered the four corners of the earth what are reputedly the earliest in existence. How far these claims will hold good we are as yet unable to say, but with not misfortune befalling, we hope to try them out and see which of six varieties will get under the wire first. With us, the Earliana and June Pink have held a pretty even race as to earliness; but with table and cropping qualities much in favor of the latter. Four other varieties have been entered in the race, and of one of these which is entirely new in this country at least, we have much hope, but of course, we must wait until its behavior is noted alongside other well known sorts. Its blooms are entirely distinct from anything we have ever seen, and from its size and the vigor and growth of the vine much may be reasonably expected from it; but only a thorough test can determine its merits.

J. E. MORSE.

PLOWING THE ORCHARD.

Those of our readers who have read the methods of plowing about the trees in the orchard will be interested in the way Mr. Church, of Lapeer county, does the work. Instead of using the long chain, or the long evener he simply hooks both tugs of the horse next to the trees to one end of the singletree. He states that the treatment is not as easy on the horse as when ordinarily hitched but finds that the results are all one could ask. The horses are thrown no farther away from the trees than as if regularly hitched but the whiffletree is not where it can harm the trunks. The modern low-headed tree would probably make this method impracticable but the ordinary fruit tree of the average orchard could be worked about with a high degree of safety by following Mr. Church's plan.

VALUE OF ORCHARD HEATERS.

Kettles filled with crude petroleum to be burned when the temperature drops, have proved so successful that in some localities 80 per cent of the orchards in which they were used were protected from frost.

A member of a committee in Colorado which experimented with orchard heaters, in a letter to the Department of Agriculture, stated that the spring of 1909 was unusually severe, and that but for the protection afforded by the orchard heaters there would have been but little fruit shipped from Colorado last year. As it was, however, there was a banner crop, and he estimated that the orchard heaters saved about \$4,000,000 to the fruit interests of the state.

In one big orchard where heaters were used, and where a section of a few acres was left unprotected, there was a crop of 15,000 boxes gathered from the protected area, but on the part not protected there were 100 ten-year-old trees and from the whole lot not a box of apples was gathered.



"Mother, guess you'll have to open the other package"

When the children find a wholesome food they really like, give them all they want.

Good food grows good men and women — Kellogg's — the original and only genuine Toasted Corn Flakes — is as wholesome as it is delicious. But you can't fool the children. Get the genuine. Made from the best white corn.

More and Better Fruit and Vegetables

That is *always* the result of using Swift's Arsenate of Lead. It destroys all leaf-eating pests so that the whole vitality of the tree or vine goes into the produce. Spray your trees and vines with Swift's and you will get a bigger and better yield. It has made thousands of apple trees give 100% clean fruit. It is equally good for vegetables and small fruit. It never burns or scorches. Mixes readily with water, stays in suspension and does not clog the pump. One spraying with Swift's often outlasts two to four sprayings with other materials that are washed off by rain.

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CURRENT COMMENT.

The general interest which has been shown by the people of the country in the policy of the conservation of our national resources is so keen that the thoughts expressed in a public speech upon this subject by the nation's chief executive can not but be of interest to Michigan Farmer readers. Thus it may be considered as fortunate that President Taft selected this topic as the subject of a public speech made in Detroit last week. In speaking of conservation and its meaning, President Taft stated that in its larger sense it is made to include the improvement of waterways and their use, and the prevention of waste in everything that nature affords to man, such as the erosion of the soil and the unnecessary destruction of the forests or exhaustion of our mineral resources. But the definition which the President gave to conservation as it ought to be defined with regard to possible federal legislation, is that it means really what we should do with our public domain, as much of it as we have left, so as to see that it be used for the benefit of the greatest number.

This public domain, exclusive of Alaska, now amounts to about 700,000,000 acres, 190,000,000 acres of which are contained in our forest reservations, and the balance including the mountains, the arid and semi-arid lands and the swamp lands which are yet owned by the government. Aside from this there are 300,000,000 acres in Alaska, the title of which is vested in the government. As President Taft defines the conservation problem, it really

means what we are to do with this total of 1,000,000,000 acres of land, some of which contains coal, some phosphates, some oil, and some of which adjoins streams in such a way as to make the land useful for water-power sites. At present all of this land is now disposable, under laws which were passed 50 years ago, as agricultural lands.

The President stated that the last and present administrations had reserved about 80,000,000 acres of these lands with a view to having congress take action looking toward their disposition in some better way than merely as agricultural lands. He also stated that this is the first example of the reservation of lands by executive authority, except for some specific purpose, and that there is need of the ratification of the act by congress if these lands are to be finally preserved for the use of the greatest number, instead of being secured by the few with long purses who seek to gain title to them for personal profit and exploitation. President Taft, however, made the point that in any plans made for the final disposition of these lands, the element of personal profit could not be eliminated, for the reason that private capital could not be induced to develop their resources without the prospect of a fair and legitimate rate of interest upon the investment.

As a means of insuring to the public the greatest benefit from the water powers which may be developed on the sites now owned by the government, President Taft advocated the plan of granting the lands to the states in which they are located upon two conditions: The first condition that the states in the disposition of these power sites to private persons, shall reserve the right every ten years to fix the rates at which they are to sell power; and, second, that they shall impose the condition that the power sites of any state shall not be centered in any one hand and become a monopoly. This plan, in his opinion, will secure the disposition and development of these power sites for the benefit of the greatest number, and yet the restrictions will enable the government to recover title to the land in case they are not observed. The coal and oil lands, the President believes, should be sold as agricultural lands with a reservation of the mineral rights.

These steps being taken, we could then turn our attention toward the interesting of private capital in the development of these resources in such a manner as to insure the greatest benefit to the greatest number, since conservation does not, in its best sense, mean that the present generation shall be deprived of any share in the benefits to be derived from our natural resources which yet remain undeveloped. President Taft stated that bills were pending in congress which he hopes and believes will be enacted into law which will give us, as a people, a "status quo," a place where we can stand until we can make a proper disposition of these natural resources for the benefit of the whole people.

As a matter of information and education upon this important subject, President Taft's speech as above outlined is an important one to every reader, since it states clearly the administration's position upon this important public policy, to which every loyal citizen should devote some earnest thought. Unquestionably the policy of insuring the conservation of the natural resources yet contained in our public domain to the use of the whole people is the first step that should be taken, and it is entirely probable that such action will be taken by the present congress. The plan for their final disposition for the benefit of the whole people, as briefly outlined in the above summary of President Taft's speech, is apparently sound, but there will remain many details to be worked out and much work to be done along the lines of conservation in its broader sense, with regard to which the thinking public should be prepared to express an intelligent opinion as this great work progresses.

In the last issue, under the heading of "Advertising vs. Quality," we commented upon the fact that extensively advertised brands of goods must be backed up by quality which will make friends among purchasers to make an extensive advertising campaign profitable, and that the sentiment sometimes found to exist in the idea that the cost of such an advertising campaign must either be added to the cost of the goods or taken from their quality, is an erroneous one.

As noted in the comment referred to, we do not believe that this sentiment is very generally held among readers of the Michigan Farmer, and the object of this comment is to warn the reader against suggestions of this kind from a very natural source. As is generally well known, special brands of goods are ordinarily sold by only one dealer in a town, who is fortunate enough to get such a leading line. Very naturally other dealers who do not have and can not get this line of goods, in attempting to persuade a purchaser who may ask for such a special brand of goods that he has something "just as good" which can be purchased at a cheaper price and as a means of convincing him of the truth of this statement, may suggest the line of thought brought out in the previous comment as noted above. This is entirely natural, but it should not appeal to the customer who is interested in getting an article of standard quality as it does to the tradesman whose chief interest lies in getting the business. For this reason the purchaser should make due allowance regarding the source of the suggestion where this idea is presented to him as above outlined, and may continue to take it for granted that only an extensive business will pay for the cost of a continuous and extensive advertising campaign, and will continue to pay such cost only when the goods are of standard quality. But, where the advertising is backed up by quality in the goods, the greater volume of business which results from such advertising often makes possible a reduction in the price of the goods in addition to paying the cost of the advertising through the greater economy made possible by manufacturing and distributing such goods in large quantities. Thus it is always safe to accept the generally advertised article as of standard quality, no matter what claims or suggestions to the contrary may emanate from parties having a personal interest in selling something "just as good," a phrase which is in itself an acknowledgment of the standard quality of the goods under comparison.

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HAPPENINGS OF THE WEEK.

Foreign.

We are informed that the early reports of the Chinese disturbances about Nanking, were exaggerated. It is claimed, however, that the disquietude caused the central government to plan against a general outbreak of the natives and to prepare for protecting foreigners.

The situation in Nicaragua is difficult to understand. The forces of Dr. Madriz who were supposed to be ready to encounter the opposition at Bluefields, have dispersed to concentrate at other points. It is held that this is not an evidence of weakness in the present government forces, but the effect upon Estrada and his adherents is to give courage to prosecute their campaign with more vigor. It is possible that this advantage may encourage Dr. Madriz to accede to a settlement which it is claimed Estrada stands ready to make upon reasonable terms.

It is expected that the Spanish cabinet may resign as the result of a crisis in the deliberations of the ministers.

An innovation in English mercantile business was instituted at Leeds by the establishing of a five and ten cent store there which is distinctly an American institution.

The efforts of the French government to settle the differences over property rights in connection with the holdings of the church of Rome, have not yet availed, inasmuch as every proposition submitted has been refused by the pope. The point at issue appears to be that in all the propositions the French government insists on dealing through the bishops of that country instead of directly with the pope, while the latter is determined that he be directly conferred with in the matter. The large holdings of the church previous to the separation of the church and state are now in a deplorable condition, and it is to better this situation that the government wishes to secure an agreement.

Public meetings are being held in England to protest against the change in the accession oath.

Much bloodshed has accompanied the recent uprising of Indians in Yucatan, against whom a large body of troops have been sent by the Mexican government. The town of Valladolid has been sacked by the Indians and the inhabitants are fleeing to Merida, a town some 95 miles distant. The rebels are strongly entrenched in anticipation of the advance of the federal forces.

National.

Mayor Gaynor of New York city, has appointed a committee of 100 to consider the advisability of holding a world's fair in that city in 1913.

President Taft's trip to Michigan included a busy evening in Detroit, the giving of the principal address at the dedication of the Custer monument at Monroe in honor of the memory of Gen. Custer who was once a resident of that city, and another address at Jackson in commemoration of the organization of the Republican party under The Oaks. In his address before the board of commerce of Detroit, President Taft spoke on the conservation work of the government. His remarks which developed the point that the federal government has a right to the control of those streams which cross state boundary lines and to those along which the public domain gives title to an interest in the stream, declared for state control of the power rights of these streams but under a check by the federal government. He held that coal deposits should

be reserved to the government in disposing of lands for agricultural purposes. He pointed out the immediate need of congressional action in regard to these rights to prevent waste and loss of advantages to the public.

Sidney Porter, one of the most popular short story writers of America, died in New York city, Sunday, at the age of 43. A large part of the collection of specimens secured by the Roosevelt party in Africa is now at the British museum where they are being identified by scientists and where a selection will be made to present to that museum. It will be perhaps a year before the collection will be forwarded to the United States.

A counterfeiting plant was discovered in the Missouri penitentiary at Jefferson City. The prisoners interested will be pardoned and then prosecuted by the federal authorities.

Fully 30,000 people were in attendance at the sessions of the national convention of the Dunkards at Winona Lake, Ind. The next convention will be held at St. Joseph, Mo.

Arrangements are made for a visit to Texas by Col. Roosevelt following his return to this country. He has been preparing a history of that state and his trip will be made partly for gathering material for that work.

The subjects of interest in the houses of congress this week are the Conservation bills in the senate and the postal savings bank measure in the house.

The sugar fraud case against the sugar trust by the government will probably go to the jury this week. The defense has put in its proof, which appears to the government's attorneys to contain many admissions of great advantage to the plaintiff. The chief witness, Heike, finally admitted that weights of sugar used as a basis for reckoning duties were not the same as used in paying for the product, that the difference was the extent to which the government had been defrauded of import duties.

CROP AND MARKET NOTES.

Genesee Co., June 3.—Continued cold and rainy weather is proving a serious handicap to corn and other late planted crops. Grass is doing well and a good yield is assured. Oats also good where not seeded on poorly drained land. Wheat about up to the average. Fruit reports agree that injury from frosts will prove serious. Everything at a standstill at present during a three days' rain. Land soaked and cultivation impossible for some time. Today's local market report follows: Wheat, \$1; corn 65c; beans, \$2.05; oats, 41c; potatoes, 22c; wool, 26c; butter, 24@30c; dressed hogs, 11½c; beef, 9@10c; baled hay, \$12@14; live chickens, 17c per lb.

Branch Co., June 1.—We have often read philippics upon the foolishness of a union of December and May, but were inclined to smile over the matter as something not concerning us, but when the weather clerk is at the bottom of the matter we rise to protest. For three days past the mercury has been dialling near the freezing point, a high wind blowing, with more or less rain falling most of the time and occasionally a few snow flakes. Only the rain and wind prevented a frost that would have frozen ice the past two nights. Today, June 1, shows no sign of a change in the program. Overcoats, mittens, winter underwear and even felt boots have been donned once more by the wise men who venture out. Late sown oats looking well, those sown early in March are turning yellow in many places. Wheat looks well where not killed by ice. Corn, some up and cultivated, some not yet planted and much that was planted early will have to be replanted. Hay will be a light crop, the weather having been too dry most of the spring. Apple, peach and plum prospects still good. Cherries a failure. Small fruit all right if no more frosts. More tile has been laid locally this spring than for many years combined, practically all of it being cement tile made by local factories. Hundreds of bushels of old potatoes in the county for which there is no market. Other farm crops, including live stock, pretty closely marketed.

Kent Co., June 1.—We used to think that sod land should be plowed in the late fall or early spring for corn or potatoes. Now many good farmers here plow and plant all the same week. One of the best potato growers in this section practices this method with splendid success, and has never failed to get a good soaking rain before plowing his sod. After his crop is in, he hustles it till fit to harvest. May has been extremely cold and dry yet oats have come on rapidly and bid fair to make a good crop. The late rains are timely and of much value to meadows and pastures. Most of the corn crop was planted last week. The chances now are that some of it will have to be replanted, that portion deposited in clay land stands a poor chance of full germination. The potato crop, early and late varieties, is going in two to three weeks earlier than usual. Prices of farm produce practically unchanged.

Gratiot Co., May 31.—This date finds Gratiot county drenched with a cold, drizzling rain with some snow mixed in. The ground had just begun to be dry enough to work from the last rain and is now filled to overflowing and the mercury keeping close company with 32 degrees. The month has been characterized by cold weather with an abundance of rain. Frosts occurred on the 3rd, 4th, 5th, 11th, 12th, 13th and 27th, some being severe enough to freeze ice as thick as window glass. Despite these conditions there are prospects of some fruit, though certainly it has been much damaged. The corn crop is largely planted and up. Cutworms are ravaging many fields and should a frost occur before this spell of weather passes most of the present planting will be dragged up and planted again or drilled to beans. Some have already drilled beans but for the most part farmers are waiting weather conditions. Wheat and grass are looking well. Oats have not been particularly favored. Beans advanced from \$1.75 to \$2 late in May but

(Continued on page 611).

POULTRY AND BEES

IN ANSWER TO INQUIRIES.

Combatting the Gape-Worm.

Please tell me what to do for chickens that have gapes. Have had this trouble among my chickens for the past four seasons and have been unable to find a remedy.

Livingston Co.

Mrs. F. E. P.

If your chickens have been troubled with gapes for four consecutive seasons it is probable that the ground which they range over is pretty well infested with the worm which causes this trouble. The gape-worm is said to be a parasite of the earthworm or common fishworm and during wet weather the fowls secure these worms in large numbers. The mature gape-worm is a forked worm about half an inch long. Once these worms gain access to the body of a fowl they congregate in the trachea or windpipe, clinging to the walls of the tube. Half-grown chicks and mature fowls generally have little trouble in expelling the worms by coughing, but small chicks usually succumb unless given relief in some way. It is advisable, especially in wet weather, to prevent small chicks from ranging over ground that is filled with earthworms or from running with larger fowls that have gapes. Better confine them, if possible, to territory that has not been traversed by infested fowls in past seasons and feed them upon a board floor or upon clean, dry ground.

As to relieving infested chicks, they should first be separated from the others. The old practice of inserting a feather into the windpipe and twisting it to loosen the worms is pretty severe for tender young chicks. One reader of this paper last year reported success from using a looped horse hair in this manner. Some of the worms may be drawn out in this manner, but it is a slow process and very exhausting to the chick. What many consider a better plan is to place the chicks in a box and cover it with a piece of burlap or cheesecloth. Then sprinkle upon this cover fine, dry, air-slaked lime, thus compelling the chicks to breathe the dust which fills the box. This causes the worms to loosen their hold on the windpipe and gives the chicks a better chance to expel them. Burn the worms that are thrown off. One practical poultryman recommends fumigating with sulphur smoke. Place the chicks in a loosely woven basket and pass it through smoke made by putting a little sulphur upon live coals. After passing it through the smoke several times open the basket and allow the chicks a breath of pure air, then repeat the treatment. At the close of the season give the grounds covered by the fowls a good sprinkling of air-slaked lime and, if practical, plow or otherwise turn the old surface under to lessen the possibility of similar trouble next year.

Scaly or Scabby Legs.

My chickens have scaly legs; some bleed and ulcerate. Otherwise fowls are healthy and lay well.

Oceana Co.

J. W. B.

This is caused by a mite which gets under the leg scales and sets up an inflammation. The irritation causes the fowl to scratch or rub off the crust which forms, some of the mites go with it and thus the trouble spreads to other fowls. Stand the fowl in a pail of warm soapy water until the scales become soft. Wash the legs and feet clean and remove any scales that are loose. Then rub the affected parts thoroughly with carbolated vaseline or with lard containing a little carbolic acid. Repeat this application daily until no sign of the trouble remains. The water in which the washing is done will contain some of the mites, consequently it should be emptied upon ground to which the poultry do not have access. Also wash the perches with kerosene or with a 5 per cent solution of carbolic acid and remove and burn the poultry house litter in which the fowls have been working.

Stamping Out Roup.

I am losing many chickens because of roup. Can you tell me of any way to keep the disease from spreading? Have used an advertised roup cure but none of them get well.

Calhoun Co.

J. M. P.

Ridding a flock of this disease calls for a good deal of careful work. The discharges from the sick fowls have no doubt become pretty well distributed about the poultry premises and unaffected members of the flock are therefore liable to pick up the germs at any time. The first thing to be done is to get those fowls which yet appear perfectly free from the trouble away from the sick ones and upon uninfected ground. If it is not possible

to fix up quarters for these fowls upon ground that has not been traversed by the ropy fowls, a yard or lot in which to confine them should be plowed or spaded up to give a clean surface, and a temporary shelter erected thereon. In removing the healthy members of the flock to this lot take care that their legs and feathers are fairly free from droppings and catarrhal discharges, lest the germs be carried from the old quarters to the new. Then confine the sick fowls to narrow limits to prevent scattering more germs about the premises. If they have had the run of the premises since contracting the disease it will be necessary to purify or disinfect, either by turning over the soil or by spraying with some good disinfectant. When the sick fowls have either been killed or remedied the building and yard they have occupied must be thoroughly renovated and all dead bodies should be burned or buried. If you desire to treat some of the less severe cases, give them a warm, dry place and try the following, which is recommended by the New York station: Clear the sores about the head of all accumulated matter and paint them with iodine. Then dip the fowl's head in a solution of one teaspoonful permanganate of potash dissolved in one pint of water, repeating the treatment daily. Feed warm, stimulating food. Watch the fowls in the new quarters closely and if any show signs of the trouble remove them promptly and give treatment.

A CEMENT PLASTERED HENHOUSE.

I am going to build a henhouse this summer. Am thinking of lathing it on outside of studding and plastering with cement (1 part cement to 4 parts gravel) making cement 1½ to 2 in. thick and finishing the surface with a thin coat of clear cement. Inside it will be lathed and plastered with wood fiber. Will such a building give satisfaction and will it be as nearly frost-proof as one that is plastered inside and sided with drop siding outside?

Barry Co.

E. A. S.

I think the house described will be as nearly frost proof as could well be built. It will be much more so from being cemented on the outside and plastered on the inside than if drop siding were used on the outside. The cement both inside and outside will leave an air-tight compartment between, and of course an air-tight compartment makes the very best non-conductor of cold or heat.

However, I question the wisdom of going to this expense in building a henhouse. I used to believe that a henhouse should be made as tight as possible, with double windows, etc., to encourage the hens to lay in winter. In carrying out this idea I built a hollow-wall brick henhouse, with double windows and a system of ventilation, but I have changed my views somewhat on the housing of poultry and do not believe that such a house for poultry is of any particular benefit. As a matter of fact, I am inclined to think that it is a detriment rather than a benefit, as compared with some other houses. This is not only my experience and observation, but we are informed that experiments have shown that this is the experience of others. Some people are now using open-front houses the year around and claim that the hens do better in them than in tight, warm houses. Three sides of the house—the back and the two ends—are made tight to prevent drafts, but the front is left practically open. The hens seem to be healthier, lay just as well and really give as good, if not better, results as when in practically air-tight houses.

The trouble with an air-tight house is to get proper ventilation. There isn't very much trouble in ventilating a dwelling house because we have artificial heat, and where we have artificial heat we can get circulation of air. But when we come to ventilate a cow stable the proposition is entirely different, because here we do not have artificial heat and it is difficult to get the ventilating shafts—the pure air intakes—to work well because there is practically nothing to start them. All the warm air we get comes from the cows' bodies. If the sides of the building are tight, and proper arrangements are made for ventilating shafts and pure air intakes, we can get this circulation in a cow stable, but it is much more difficult than in a building having artificial heat. Now when you come to ventilating a henhouse the problem is still more difficult. It is next to impossible to get up any heat with a flock of hens. Cows will warm a stable with their bodies, but it is almost impossible to warm a henhouse with the bodies of the hens, consequently it is almost impossible to get up artificial ventilation. If you have a real tight, cold henhouse the only way to ventilate

it is to have artificial heat—oil stoves, or something of that sort—to create a draft or cause the air to circulate. When I built the brick henhouse I found we had poor ventilation, although the best known system of ventilation had been installed. With the open-front house the ventilation problem is settled. The hens get all the fresh air they want, and they do better with an abundance of fresh air even though the temperature is low sometimes, than they do in a closed house that is warm and poorly ventilated.

COLON C. LILLIE.

HONEY PROSPECTS IN MECOSTA AND ADJOINING COUNTIES.

While there is no cause for complaint in regard to present prospects for honey as compared with several previous years, still the outlook is not as bright as it was about April 1. The specialist with a more thorough knowledge of bee nature will, in all probability, succeed in securing a crop of honey, but I fear the average farmer bee-keeper will fail in securing his share of honey this year.

The season opened for brood rearing a month earlier than usual. Later cold, chilly weather held back the clovers, etc., until at this time (May 28) they are only a couple of weeks in advance of where they would have been in a normal year. Brood rearing commenced abundantly about the first of March. Stores were rapidly diminished, and long before the clover flow opened many colonies were without stores. Indications of this are seen along the fronts of the hives where the brood has been dragged out and piled in heaps in front of the entrances. This same brood would have hatched out the bees which would have been the honey gatherers, and the bee-keeper who loses this brood, and the eggs which the queen will fail to lay also, loses the bulk of his honey crop.

Feeding syrup made of equal parts of sugar and water before they come to this stage, and keeping this up until the beginning of the honey flow will prevent this condition of things, but the bee-keeper who never looks at his bees until he is ready to put on the upper stories will probably be disagreeably surprised when he comes to examine them this year.

Medicated Syrup a Safeguard.

Having been troubled with foul brood, and there being some of it still in my yard, I medicate the syrup and find this goes a long way toward keeping the disease in check. As the expense is slight, it would, in my opinion, pay any apiarist to feed medicated syrup as a preventive, even though to his knowledge there is no disease in his vicinity. The formula is as follows: Empty an ounce package of beta-naphthol into an 8-oz. bottle or other receptacle and pour over it enough wood or common alcohol to dissolve it. Then fill the bottle with water. This solution will be sufficient to mix with 140 lbs. of sugar dissolved in 140 lbs. water, or 280 lbs. of feed. When thoroughly mixed in this proportion it is harmful neither to man nor bees. Great care should be taken, however, not to get the solution on the fingers before mixing with the syrup, as it is a dangerous poison in this form.

Clover is just beginning to show an occasional blossom in warm sheltered places in this locality, and the progressive bee man will be seeing to it that all colonies are well supplied with upper stories if he has not already done so. We have had some heavy frosts but I do not think the clover is damaged, although fruit has suffered severely. Raspberry is also just beginning to come in blossom and we shall soon be in the thick of it. These are the conditions that prevailed about June 10 last year, so that the season appears to be a little in advance of last year.

Mecosta Co.

L. C. WHEELER.

Advertisement Brings Orders.

Lewis T. Oppenlander, Lansing, Mich., breeder of S. C. Brown Leghorns, writes: "My advertisement in your paper brings me about all the orders that I can handle. Thanking you for the same, I am, Yours truly, LEWIS T. OPPENLANDER."

Eggs From Haskins' Business Barred Rocks, White, Golden, Silver Wyandottes, Rhode Island Reds, S. C. and R. C. Buff, White and Brown Leghorns, Silver Spangled and Penciled Hamburgs. Eggs \$1.50 per 15. Pure bred, free range flocks \$5 per 100. All varieties Duck and Geese Eggs, Turkey Eggs. E. J. HASKINS, Pittsford, Mich.

FEED CHILDREN

On Properly Selected Food. It Pays Big Dividends.

If parents will give just a little intelligent thought to the feeding of their children the difference in the health of the little folks will pay, many times over, for the small trouble.

A mother writes saying: "Our children are all so much better and stronger than they ever were before we made a change in the character of the food. We have quit using potatoes three times a day with coffee and so much meat."

"Now we give the little folks some fruit, either fresh, stewed, or canned, some Grape-Nuts with cream, occasionally some soft boiled eggs, and some Postum for breakfast and supper. Then for dinner they have some meat and vegetables."

"It would be hard to realize the change in the children, they have grown so sturdy and strong, and we attribute this change to the food elements that, I understand, exist in Grape-Nuts and Postum."

"A short time ago my baby was teething and had a great deal of stomach and bowel trouble. Nothing seemed to agree with him until I tried Grape-Nuts softened and mixed with rich milk and he improved rapidly and got sturdy and well."

Read "The Road to Wellville," found in pkgs. "There's a Reason."

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

BEE KEEPERS' SUPPLIES.

Hives, Sections, Foundation, etc. Everything for the bees. Beeswax wanted. Send for catalog.

BERRY BASKETS.

Order your bee supplies and berry baskets at same time and save freight expense. Prices given in catalog M. H. HUNT & SON, 110 Condit St., Lansing, Mich.

Coopers S. C. Brown Leghorns are "Fag Layers" Hatching eggs 98c per 15; \$1.40 per 30; \$4 per 100. WM. J. COOPER, Mt. Pleasant, Mich.

EGGS FOR HATCHING—Light Brahma, White Wyandotte and B. P. Rock, \$1 a setting; \$1.50 for 2 settings. E. D. Bishop, Route 38, Lake Odessa, Mich.

EGGS FROM ANY OF OUR PENS \$1 per 15 or \$4 per 100 on orders to be delivered after June 1. H. H. KING, Willis, Mich.

BARRED PLYMOUTH ROCK eggs for hatching from 15 for \$1.00, 26 for \$1.50, 50 for \$2.50, 100 for \$4.50. COLON C. LILLIE, Coopersville, Michigan.

WHITE WYANDOTTES—The unsurpassed business hen. Eggs \$1.50 per 15 or \$2.50 per 30. A. FRANKLIN SMITH, Ann Arbor, Mich.

SINGLE COMB WHITE LEGHORN eggs for hatching at following prices: 15 for \$1.00, 26 for \$1.50, 50 for \$2.50, 100 for \$4.50. COLON C. LILLIE, Coopersville, Michigan.

Get a Setting from my great laying strain single comb Brown Leghorns—15 for \$1. A. KEITH, Wyandotte, Mich.

THE best in S. C. White Leghorns, White & Buff Rocks and Columbian Wyandottes. Eggs \$1.25 per 15; \$5 per 100. C. W. Hurd & Sons, Davison, Mich.

R. C. WHITE LEGHORN EGGS, from hens bred to lay, \$1 per 15; \$5 per 100. Also Collie pups. A. R. GRAHAM, Flint, Michigan.

HATCH your S. C. Brown Leghorns now. Eggs \$1.50 per 30 or \$4 per 100. Lewis T. Oppenlander, successor to Fred Mott, R. No. 4, Lansing, Mich.

R. C. and S. C. Rhode Island Red Eggs \$5.00 per 100. BUELL BROS., Ann Arbor, Mich.

Until July I Will Sell Eggs from all my stock of Reds, either comb at \$1.50 per 30. Early arrival and fertility guaranteed. W. T. FRENCH, Ludington, Michigan.

R. C. R. I. Reds—Stock selected from the best layers for years. Great egg record, Farm range. Eggs 15 \$1; 100 \$5. F. M. Knapp, Berlin Heights, R. I. O.

"RINGLET" Barred Rocks. The Famous Winning Strain. Eggs \$1.50 per 15 from Select Matings. Stock for sale. Plainview Stock Farm, J. W. Eiland, Prop., Romeo, Mich.

40 \$2; 15 \$1—Smith select eggs, good measure from world's best strains, Bd. Wh. & Bf. Rox. R. & S. C. Reds, S. C. White, R. & S. C. Br. Legh's; Pk. Dks.; bred to win lay & set. Strong baby chicks 15c each. Years of experience. Poultry my business & study. Circ. W. J. CRAWFORD, R. 4, Francesburg, Ohio.

"MONEY IN EGGS"

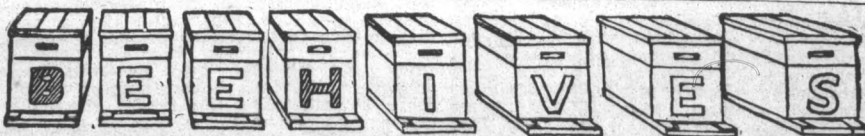
S. C. Brown Leghorns—My method and farm range has developed layers with vigor. My eggs produce layers, one-third fancier's price and better layers, \$1.50 per 30; \$3 per 60; \$4 per 100; \$6 per 200. Prompt shipment. J. E. McARTHUR, Enfield, Illinois.

White Wyandotte eggs for hatching from select breeding pens: \$1.00 for 15, \$1.50 for 26, \$2.50 for 50 and \$4.50 for 100. COLON C. LILLIE, Coopersville, Michigan.

Y. B. BRAND—S. C. W. Leghorns. Bred to lay, \$1. per 15; \$5 per 100. C. W. YEITER, Alto, Michigan.

DOGS.

TRAINED FOX HOUNDS and Hound Pups for hunting fox and coons. Also Collies. Inclose 2-cent stamp. W. E. LECKY, Holmesville, Ohio.



Sections, Foundation, Bee Vells, Smokers, a complete line of supplies for bee keepers, ready for immediate shipment. 40-page catalog, free. Bees Wax Wanted. A. G. WOODMAN CO., Dept. M.F., Grand Rapids, Mich.

MARKETS

DETROIT WHOLESALE MARKETS.

June 7, 1910.
Grains and Seeds.

Wheat.—The control of prices has been in everybody's hands the past week as is indicated by the change given below. A stronger feeling among the bulls on the English markets gave exporters a chance to make a margin and buying by them, together with an over-sold market here, gave the deal a basis for advanced quotations; but this was followed by improved weather conditions over the whole American wheat belt and the advance was partially lost. The weather improvement is evident in both the spring and winter wheat sections and the plant is giving the farmers a surprise in the recuperative qualities exhibited. The visible supply is down a million and a half bushels. Flour merchants are having a fair trade. A year ago the price for No. 2 red wheat was \$1.56 per bu. Quotations for the week are:

	No. 2	No. 1	White	July	Sept.
Thursday	1.05	1.05	.95	.93 1/2	.93 1/2
Friday	1.04 1/2	1.04 1/2	.95	.93 1/4	.93 1/4
Saturday	1.05	1.05	.95 1/4	.93 1/4	.93 1/4
Monday	1.06	1.06	.96 3/4	.95	.95
Tuesday	1.05 1/4	1.05 1/4	.96	.94 1/4	.94 1/4
Wednesday	1.05	1.05	.96 1/2	.94 1/4	.94 1/4

Corn.—The long delay of corn planting has reached the stage where it amounts to a permanent charge against the crop, unless the weather is more than favorable from now until harvest time, for the delay has taken the planting past the normal time for that work. Reports from Michigan farmers indicate that in some sections beans will be used to plant many fields that were intended for corn. Prices range above those of last week. One year ago the quotations for No. 3 corn was 77c per bu. The last week's prices were:

	No. 3	Yellow
Thursday	59	60 1/2
Friday	60	61 1/2
Saturday	60	61
Monday	60 1/2	61 1/2
Tuesday	60 1/2	62
Wednesday	62	62 1/2

Oats.—The average price for the week is about the same as for the previous period. The crop has continued with about the same prospect as it had a week ago, when it was noted that the weather condition which had been so discouraging to farmers because of the effect upon wheat and corn, favored the oat crop. The price a year ago was 62 1/2c per bu. Quotations for the week are:

	Standard
Thursday	40 1/2
Friday	41
Saturday	40 1/2
Monday	41
Tuesday	41
Wednesday	41

Beans.—Quotations for beans have improved a little during the week. The farmers in the country report that prices on the farms are better. It is anticipated that the belated corn planting will favor an increased acreage of beans for the season, especially in Michigan where the crop has become so popular. Quotations for the week are:

	Cash	Oct.
Thursday	2.22	2.00
Friday	2.22	2.00
Saturday	2.25	2.00
Monday	2.25	2.00
Tuesday	2.25	2.05
Wednesday	2.30	2.05

Cloverseed.—The quotation for October seed is higher than a week ago. The improvement is due to the judgment of traders regarding the prospect for the crop. There were a few sales of cash goods around \$6.75 per bu. Quotations for the week are:

	Prime Oct.
Thursday	\$6.50
Friday	6.50
Saturday	6.50
Monday	6.55
Tuesday	6.50
Wednesday	6.50

Rye.—Market is lower and steady at the new figure. No. 1 is quoted at 81c per bu., which is a decline of 1 1/2c since a week ago.

Visible Supply of Grain.

	This week	Last week
Wheat	18,647,000	22,030,000
Corn	5,471,000	6,541,000
Oats	6,666,000	7,416,000
Rye	496,000	573,000
Barley	1,807,000	2,152,000

Flour, Feed, Provisions, Etc.

Flour.—The market is steady at the range of prices established a week ago. Quotations as follows:

Clear	\$5.15
Straight	5.25
Patent Michigan	5.53
Ordinary Patent	5.35

Hay and Straw.—Market is steady for both hay and straw. Quotations: No. 1 timothy, new, \$17@17.50; No. 2 timothy, \$15.50@16; clover, mixed, \$15.50@16; rye straw, \$7@7.50; wheat and oat straw, \$6.50@7 per ton.

Feed.—Prices are steady. Carlot prices on track: Bran, \$25 per ton; coarse middlings, \$26; fine middlings, \$26; cracked corn, \$27; coarse corn meal, \$27; corn and oat chop, \$24 per ton.

Potatoes.—There is a quiet feeling among potato dealers and they find no grounds for advancing values. In car lots, Michigan potatoes are quoted at 23@25c per bu.

Provisions.—Family pork, \$26@27; mess pork, \$25; medium clear, \$24.50@26; pure lard, 13 1/2c; bacon, 20@21c; shoulders, 14c; smoked hams, 18@18 1/2c; picnic hams, 13 1/2c per lb.

Hides.—No. 1 cured, 9 1/2c; No. 2 cured,

8 1/2c; No. 1 green bulls, 8c; No. 1 green calf, 14c; No. 2 green calf, 13c; No. 1 cured calf, 15c; No. 2 cured calf, 14c; No. 1 horsehides, \$3.50; No. 2 horsehides, \$2.50; sheepskins, as to wool, 15@60c.

Dairy and Poultry Products.

Butter.—Creamery goods have declined a cent, while dairy offerings are steady at last week's prices. The receipts are coming more liberal and the quotations are off in all the leading markets. Quotations here are: Extra creamery, 27c; firsts, do., 26c; dairy, 21c; packing stock, 20c lb.

Eggs.—From every direction eggs are coming in large quantities and the trade has put down prices. Fresh eggs, cases included, case count, are quoted at 18 1/2c per doz.

Poultry.—General poultry market is steady, but the shortage of broilers has put values higher for that grade. Live—Broilers, 28@30c; spring chickens, 18c; hens, 18c; old roosters and stags, 12@13c; ducks, 13@16c; geese, 12c; turkeys, 18@19c per lb.

Cheese.—Michigan, late made, 15c; Michigan, fall made, 17 1/2@18c; York state, 18@18 1/2c; limburger, old, 17@18c; Swiss, domestic block, 23@24c; cream brick, 16@16 1/2c.

Calves.—Steady. Choice to fancy, 11 1/2c; ordinary, 10@11c.

Fruits and Vegetables.

Apples.—Steady and in good demand. Spy, \$4@4.50; Baldwin, \$5@5.50; Steel red, \$6.50@7.

Cabbage.—Lower. Selling at \$1.75@2.50 per crate for new.

Strawberries.—Michigan berries began coming this week. The berries are small but of good flavor; 16-qt. crates were quoted at \$1.75.

Vegetables.—Beets, 60c per bu; carrots, \$1.25 per bu; cauliflower, \$1.25 per bu; celery, 75@80c per case; eggplant, \$1.50@1.75 per doz; green onions, 10@12c per doz; head lettuce, \$1@1.25 per doz; mint, 25c per doz; parsley, 25@30c per doz; radishes, 12c per doz; spinach, 65@70c hamper; turnips, 40c per doz; watercress, 20@25c per doz; wax beans, \$1.75@2 per bu; pieplant, 20c per doz; asparagus, \$1@1.25 per doz.

OTHER MARKETS.

Grand Rapids.

Wheat has advanced 2c since last week, and other grains have not changed materially. Prices are as follows: Wheat, \$1.03; corn, 62c; oats, 42c; rye, 68c, and buckwheat 50c. White pea beans are firm at \$2. Red kidneys are scarce and dealers are paying farmers as high as \$3.25. Dairy butter is steady, the price to the country trade being 22c. Creamery butter is off 1c, this week's quotation standing at 27c. Dealers continue to pay 19c for eggs, though the market is weak at that figure and the price may go lower soon. Live poultry prices are steady, as follows: Fowls, ducks and turkeys, 14c; old roosters, 9c. Dressed hogs are unchanged at 11 1/2c. Veal is bringing 6@9c. Business on the city market is getting lively now, especially in green stuff. No home-grown strawberries yet, though they are due next week. Frosts destroyed the first two pickings, but there will probably be fully half a crop notwithstanding the cold weather. Local commission houses are doing a big business in pineapples now, one house alone handling 10 cars last week.

Chicago.

Wheat, No. 2 red, \$1.02 1/2@1.03 1/2; July, 94 1/2c; September, 91 1/2c.

Corn—No. 2, 58 1/2c; July, 58 1/2c; September, 59 1/2c per bu.

Oats—No. 3 white, 37 1/2@39c; July, 37 1/2c; September, 35 1/2c.

Butter.—The margin of values put on creamery goods is narrower while dairy is steady. Receipts more liberal. Quotations are: Creameries, 24 1/2@27c; dairies, 23@26c.

Eggs.—There is a decidedly easier undertone to the trade. Receipts liberal. Prime firsts, 18 1/2c; firsts, 17 1/2c; at mark, cases included, 15 1/2@16 1/2c per doz.

Hay and Straw.—Market higher. Quotations are: Choice timothy, \$17@18; No. 1 timothy, \$15@16; No. 2 do. and No. 1 mixed, \$13.50@14.50; No. 3 do. and No. 2 mixed, \$9.50@12.50; rye straw, \$8@9; oat straw, \$6.50@7; wheat straw, \$6@6.50.

Potatoes.—The increased receipts of new potatoes are crippling the old potato market and prices are lower with an easy tone prevailing. Fancy and choice stocks are selling at 24@26c per bushel, while fair to good grades are quotable at 22@23c per bushel.

Beans.—Prices are higher. Choice hand-picked are quoted at \$2.25@2.30; fair to good, \$2.20@2.25; red kidneys, \$3.10@3.35 per bushel.

Wool.—The deal continues steady with values where they were a week ago. For fine unwashed delaine, 23@25c is being paid.

New York.

Butter.—There is a little easier feeling in butter circles. Receipts have increased and prices are a shade lower. Creamery specials are quoted at 28 1/2c; process butter, 23@26c per lb.

Eggs.—The market is lower, due to heavier receipts. Nearby eggs are quoted at 23@25c; regular packed extra firsts, 20 1/2@21c per doz.

Poultry.—Trade is firm. Western fowls, 14@19 1/2c; western broilers, 25@32c; turkeys, 15@18c per lb.

Boston.

Wool.—In view of the transactions here this week which show that manufacturers took a good block of raw material at the present range of values, and also of the strong tone to the trade abroad, there is occasion for farmers who are holding their wool for their own price, to take courage. Western houses appear to be more optimistic of the future than the eastern houses and are coming over to the farmer's view more readily than the eastern houses, and as a result they are getting more wool than ordinarily. The

leading domestic quotations for the week are: Ohio and Pennsylvania fleeces—No. 1 washed, 31@37c; delaine washed, 34@35c; XX, 33@34c; half blood combed, 28@30c; three-eighths blood combed, 28@30c; quarter blood combed, 26@27c; delaine unwashed, 26@27c; fine unwashed, 23@24c. Michigan, Wisconsin and New York fleeces—Fine unwashed, 22@23c; delaine unwashed, 23@25c; half blood unwashed, 27@28c. Kentucky, Indiana and Missouri—Three-eighths blood, 30@31c; quarter blood, 26@28c.

Elgin.

Butter.—Market is firm at 27c per lb., which is 1c below the quotation of a week ago. The sales for the week amounted to \$34,700 lbs., compared with 687,400 for the week previous.

THE LIVE STOCK MARKETS.

Buffalo.

June 6, 1910.

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

Receipts of stock here today as follows: Cattle, 165 cars; hogs, 13,600; sheep and lambs, 4,400; calves, 2,500.

We had 165 cars of cattle on our market here today, and there was quite a number of the best cattle that have been shown here this season, strictly dry-fed and fine quality, which sold from \$8.25@8.60. The strictly dry-fed cattle all sold steady to higher, and the grassers sold barely steady to lower. We want to caution our shippers to be careful about buying these grassy cattle of all grades, as they are bound to sell lower.

We quote: Best 1,300 to 1,450-lb. steers, \$8.25@8.60; good prime 1,200 to 1,350-lb. steers, \$7.50@8; best 1,100 to 1,200-lb. shipping steers, \$7@7.75; medium butcher steers, 1,000 to 1,100 lbs., \$6.25@7; light butcher steers, \$5.25@5.75; best fat cows, \$6.50@6.75; fair to good cows, \$5@5.50; common to medium do., \$3.50@4.50; best fat heifers, \$7@7.50; good fat heifers, \$5.75@6.50; fair to good do., \$5.50@6; stock heifers, \$4@4.50; best feeding steers \$5@5.50; medium to good do., \$4.75@5; stockers, all grades, \$4@5; best bulls, \$6@6.35; bologna bulls, \$4.75@5.25; light thin bulls, \$3.75@4.50; best milkers and springers, \$55@65; common to good do., \$25@45. Few extra choice bulls sold for 6 1/2c.

Our hog market opened strong 5@10c lower than Saturday. Closed steady with the opening, with fair clearance all that got in time for the market. We quote prices as follows: Mixed, medium and heavy, \$9.45@9.50, mostly \$9.50; yorkers, \$9.50@9.60; pigs and light yorkers, \$9.60@9.70; roughs, \$8.40@8.50; stags, \$7@7.25.

The lamb market opened active today, with most of the best lambs selling from \$8@8.25; few fancy at \$8.50. Market closed steady; all sold. Look for steady prices balance of the week. Sheep were very active and prices about the same as last week. Most of the best wethers selling at \$5.50@5.75. Look for some improvement in the sheep trade next week.

We quote: Handy lambs, \$8.35@8.50; heavy lambs, \$7.25@7.50; wethers, \$5.50@5.75; ewes, \$5@5.25; yearlings, \$6@6.25; cull sheep, \$2.50@4; skip lambs, \$4.50@5.50; bucks, \$3@4; veals, choice to extra, \$9@9.25; fair to good do., \$8.50@8.75; cull to common, \$7@8; light thin calves, \$5@6.

Chicago.

June 6, 1910.

Cattle. Hogs. Sheep. Received today 18,000 30,000 12,000 Same day last year, 18,671 47,809 10,625 Received last week, 37,791 108,849 62,655 Same week last year, 47,777 129,605 69,876

Surprise was manifested today because of the meager receipts of both cattle and sheep for Monday, as well as over the good sized hog supply after last week's decline of 20@30c in hog prices. It was generally thought that the decreasing cattle receipts meant a scarcity in the country, and that owners of hogs were becoming alarmed over the bearish markets. The small lamb supply was easily explained by last week's decline of 25@50c, but it was supposed that the cattle advance would bring in larger supplies. Cattle prices averaged 10@15c higher, with a good demand, some heavy steers going at \$8.70 and a sale of 55 head of steers and heifers at \$7.50. Hogs averaged 5c lower, an early decline of 5@10c being followed by active trading at within 5c of Saturday's figures. Hogs went at \$9.05@9.35, light selling at \$9.10@9.35. Sheep and lambs of the better class advanced promptly about 25c, without enough to satisfy the demand, fed lambs selling at \$4.75@4.80, with Colorado-Mexicans at the top figure. Wethers sold at \$5@5.75, ewes at \$3@5.70, and spring lambs at \$6.25@9.25. Yearlings were scarce and salable at \$6.25@7.

Cattle advanced largely 15@25c last week because of the exceptionally small supplies shipped in rather than because of any broadening out of the general demand, for no larger offerings than usual were wanted by local buyers or eastern shippers. Monday, Memorial Day, was observed by closing all the packing houses and consequently only 12,867 cattle arrived that day, which was a remarkably small number for the first business day of the week. By Wednesday eastern shippers were competing strongly with Chicago buyers for fat beefs, and an advance in prices on that day was followed up by a rise on Thursday. Not nearly enough well fattened cattle were marketed to fill buying orders, and buyers were compelled in numerous instances to take the next best lots as substitutes. Beef steers sold largely at \$6.75@8, with choice to fancy lots going at \$8@8.55 and a common grade of light weight killers at \$5.60@6.70. Medium steers sold at \$6.75@7.45 and good cattle at \$7.50 and over. It was regarded as an exceptional week, and with a return to the usual receipts a renewed declining movement in prices for grassy cattle is looked for, as the free marketing of Texas grassers always means a break in values for their farmed competitors. Butcher stock had a full share in the upward movement, cows and heifers selling at \$4.15@7 and can-

ners and cutters at \$2.50@4.10, while bulls sold at \$3.75@6.15. Calves were higher at \$3.50@8.65, and milkers and springers were mostly higher under limited offerings, selling fairly at \$30@70 per head. There was a fairly active demand most of the time for stockers and springers, and they sold much higher, with light offerings and killers taking the best feeders. Feeders sold at \$5.70@6.50 and stockers at \$4.25@5.70. Numerous buying orders had to go over unfilled at the close of the week.

Hogs were marketed less freely last week both here and at other western markets, supplies being less than in recent weeks and smaller than a year ago. The Monday holiday checked the receipts, and so did the sharp declines in prices on different days, owners in feeding districts being unwilling to sell on a lower basis than has been witnessed of late. The average stock feeder has been refusing to sell on a lower level than \$9 on the farm, realizing fully the scarcity of swine everywhere and the heavy requirements of the packers for the fresh meats and cured meats trade. It is impossible for packers to make any considerable headway in increasing their supplies of provisions, and on June 1 Chicago stocks were only 74,866,837 lbs., compared with 67,874,776 lbs. a month ago and 134,812,956 lbs. a year ago. The worst feature of the market undoubtedly was the continued lack of a good eastern shipping demand, enabling local packers to depress prices, while speculators bought on the breaks. The average quality of the hogs was extremely good, with most of the receipts well matured, and the great bulk sold within a 10c range, the few pigs offered selling as high as fat hogs.

Sheep and lambs were marketed rather freely last week, Monday's small "run" being followed by larger receipts on subsequent days. Lambs, as usual, comprised the great bulk of the daily offerings, and several breaks in prices took place, with sheep and yearlings selling firm and even higher at times. The lack of an eastern shipping demand continued the most depressing feature of trade, but by Thursday exporters started in buying fat heavy sheep, and this promptly ran up prices for matured muttons sharply. Colorado Mexicans were much the best sellers of any fed lambs, as usual, as they were apt to be fat, and were invariably light in weight. Spring lambs came forward in increasing volume, and several large shipments were consigned to packers direct. California sent in some trains of grass spring lambs, and the best lots sold readily at \$9 per 100 lbs., a highly satisfactory figure for sellers.

Horses have been selling pretty well for this season of the year, and high-grade animals were disposed of to good advantage, but otherwise trade was inclined to be slow. The superintendent of an ice company was one of the most aggressive buyers of medium-weight draft horses last week, paying \$190@240 per head, and the general range of drafter prices stood at \$175@275, with expressers in good request at \$175@215 and young feeders salable at \$170@225. Drivers and saddlers had a fair sale at \$150@300. Receipts of horses continue much smaller in number than a year ago, and prices are averaging much higher than then.

LIVE STOCK NOTES.

South Dakota is producing some extraordinarily fancy draft horses. Marshall Field & Co., of Chicago, recently purchased at the Chicago stock yards a fancy pair of 3,800-lb. South Dakota drafters at \$1,000. They were show horses in weight, conformation and finish and were well equipped to compete for honors in the most select draft horse exhibition. There has been a wonderful advance in horse breeding in that state, where soil, water, grasses and climate are highly favorable for the production of high-grade commercial horses of every class.

Pork loins have been lowered in the Chicago market at wholesale to 12 1/2c a pound, but cured hog meats remain extraordinarily high, and hams and bacon are retailing around 30c a pound when sliced, with considerably lower prices when sold by the strip of bacon or the whole ham.

Hogs have rallied in the Chicago market of late whenever they sold below \$9.50 per 100 lbs., and they have looked like a good purchase by country shippers whenever breaks in prices of 15@25c per 100 lbs. have occurred. Nearly always this season the best prices are seen during the last three days of the week. Packers have been making money on hogs, and offerings have been well absorbed as a rule, although buyers have not hesitated to pound prices whenever eastern shippers were largely out of the market.

The cheapest hogs are usually seen in the month of June, and higher prices are usually paid by July. A good authority makes the prediction that hogs will not sell below \$9 until they are fattened from the "crop" of pigs born this spring, and the prediction is also made that hogs will sell for \$10, and perhaps even higher, in July, August and the first portion of September.

Buyers are after light and medium weights of hogs, and lots averaging upward of 300 pounds are discriminated against and go at a discount. Never before were hogs marketed so uniformly prime in grading, but never before was the inducement so strong to convert reasonably cheap corn into high-priced hogs. The public wants lamb meat, and retail markets no longer sell mutton, everything in the sheep line being "lamb." Furthermore, retailers fail to follow the declines in prices for live mutton on the hoof, and this course is responsible for a great decline in the consumption of mutton and lamb meats. A proper adjustment of prices would vastly stimulate consumption.

Some of the eastern cattle buyers have been purchasing large supplies in the west direct from cattle feeders recently, and in a recent week one firm that is in the habit of dealing exclusively in the Chicago market bought over 3,000 cattle in Kentucky.

THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.
June 9, 1910.

Cattle.

Receipts, 1,101. Market strong at last week's advance on all grades; trade active.

We quote: Best steers and heifers, \$7.50@8; steers and heifers, 1,000 to 1,200, \$6.75@7.25; steers and heifers, 800 to 1,000, \$6@6.50; grass steers and heifers that are fat, 800 to 1,000, \$5.50@6; grass steers and heifers that are fat, 500 to 700, \$4.75@5.25; choice fat dry-fed cows, \$5.50@6; good fat cows, \$4.50@5; common cows, \$3.25@3.75; canners, \$2.75@3.25; choice heavy bulls, \$5.25@5.75; fair to good bolognas, bulls, \$4.50@5; stock bulls, \$4@4.50; choice feeding steers, 800 to 1,000, \$5@5.50; fair feeding steers, 800 to 1,000, \$4.25@4.75; choice stockers, 500 to 700, \$4.50@5; fair stockers, 500 to 700, \$4@4.25; stock heifers, \$3.50@4; milkers, large, young, medium age, \$4@60; common milkers, \$25@35.

Roe Com. Co. sold Mich. B. Co. 34 butchers av 674 at \$5.25 do av 819 at \$5.75, 28 steers av 834 at \$6.75; to Bresnahan 13 stockers av 588 at \$5.50 do av 600 at \$5.25; to Kamman B. Co. 1 cow weighing 1,280 at \$6.23 butchers av 700 at \$5.35, 1 heifer weighing 770 at \$5; to Sullivan P. Co. 7 cows av 1,030 at \$5.1 bull weighing 880 at \$5.4 butchers av 610 at \$4; to Kamman B. Co. 8 do av 780 at \$5.25; to Thompson Bros. 5 cows av 1,060 at \$5.25, 2 do av 1,020 at \$4.75, 2 do av 1,190 at \$6, 2 bulls av 1,150 at \$5; to Regan 1 heifer weighing 600 at \$5.50; to Sullivan P. Co. 25 steers av 1,091 at \$7.25; to Hammond, S. & Co. 17 do av 846 at \$6.65; to Gerish 19 do av 863 at \$6.70; to Hammond, S. & Co. 10 do av 1,108 at \$7.25, 6 do av 780 at \$6.25.

Bishop, B. & H. sold Erban Bros. 5 steers av 786 at \$6; to Sullivan P. Co. 2 cows av 965 at \$5.3 do av 916 at \$3.25; to Fronn 1 do weighing 1,000 at \$3.50, 3 do av 887 at \$5; to Regan 9 butchers av 681 at \$5.10; to Thompson Bros. 2 do av 785 at \$3.25, 9 do av 764 at \$4.75, 2 cows av 1,145 at \$4.60, 3 steers av 850 at \$6.14 do av 777 at \$5.25; to Bresnahan 3 stockers av 473 at \$4.75; to Goose 4 cows av 880 at \$3.50; to Mich. B. Co. 11 steers av 967 at \$7.50, 5 cows av 1,166 at \$5.75, 1 bull weighing 840 at \$5.2, 2 heifers av 750 at \$4.25, 10 steers av 835 at \$6, 9 butchers av 700 at \$5.50, 2 do av 1,115 at \$6, 3 do av 590 at \$4.25; to Sullivan P. Co. 1 heifer weighing 780 at \$6.50, 4 cows av 1,200 at \$5.75, 1 do weighing 870 at \$4.4 do av 967 at \$5.25, 1 do weighing 600 at \$3, 1 do weighing 860 at \$4.25, 2 steers av 1,035 at \$6.75, 30 do av 1,073 at \$7.50, 4 do av 780 at \$6.50, 3 cows av 1,126 at \$5.50, 31 steers av 1,194 at \$8; to Hammond, S. & Co. 4 butchers av 990 at \$5.50, 3 do av 700 at \$5, 6 do av 838 at \$6.60, 22 do av 807 at \$6.60; to Newton B. Co. 17 do av 851 at \$5.50, 2 steers av 950 at \$6.60.

Spicer & R. sold Sullivan P. Co. 6 steers av 1,025 at \$6.50, 2 heifers av 735 at \$5.25, 1 cow weighing 1,040 at \$3.50, 10 butchers av 672 at \$5.50, 7 cows av 900 at \$4.50, 2 do av 750 at \$4.50, 21 do av 1,023 at \$5, 2 do av 800 at \$3.50, 1 bull weighing 1,210 at \$5.25, 2 do av 875 at \$5, 4 butchers av 570 at \$5, 18 do av 525 at \$5, 2 cows av 882 at \$4.50, 2 do av 700 at \$3.25; to Cooke 25 butchers av 800 at \$6, 1 cow weighing 820 at \$5; to Goose 8 do av 945 at \$4, 2 do av 700 at \$3, 4 do av 1,065 at \$4.75, 1 bull weighing 1,240 at \$5.25; to Regan 1 heifer weighing 540 at \$5.50; to Mich. B. Co. 17 butchers av 781 at \$5.50, 2 steers av 900 at \$6, 7 do av 930 at \$6.75, 1 cow weighing 810 at \$5.50, 1 canner weighing 870 at \$3.50, 3 cows av 1,026 at \$5, 1 bull weighing 1,110 at \$5; to Sullivan P. Co. 8 steers av 942 at \$7, 1 do weighing 750 at \$7; to Thompson Bros. 2 do av 1,100 at \$7.25; to Kamman 3 butchers av 933 at \$6.60; to Lachalt 14 do av 728 at \$5.50; to Sullivan P. Co. 8 cows av 1,041 at \$6, 5 do av 1,000 at \$4.75, 5 steers av 928 at \$6.75.

Haley & M. sold Kamman 1 bull weighing 1,380 at \$5.75; to Sullivan P. Co. 3 cows av 833 at \$4.75, 8 butchers av 750 at \$5.25, 2 cows av 1,025 at \$4.10, 1 do weighing 800 at \$3; to Cooke 1 steer weighing 1,020 at \$7, 4 do av 805 at \$6; to Schuman 12 do av 730 at \$6.30; to Bresnahan 3 heifers av 473 at \$4.85; to Sullivan P. Co. 1 steer weighing 1,020 at \$6.75, 3 do av 847 at \$6; to Schilscher 4 butchers av 670 at \$5.40; to Kamman 5 do av 740 at \$6.15; to Jonghan 1 cow weighing 1,130 at \$3.50; to Hammond, S. & Co. 1 do weighing 1,160 at \$5.

Wagner sold Sullivan P. Co. 3 cows av 1,263 at \$5, 8 steers av 965 at \$6.50.

Jedele sold same 2 steers av 1,130 at \$7.50, 2 cows av 920 at \$3, 3 do av 1,033 at \$5, 4 heifers av 860 at \$6.

Downing sold Kamman 10 butchers av 723 at \$5.60.

Veal Calves.

Receipts, 1,519. Market strong at Wednesday's prices; 25c higher than last week. Best grades, \$8.50@8.75; others, \$4@7.50; milk cows and springers strong, best grades 5c higher.

Bishop, B. & H. sold Praig 13 av 130 at \$8, 13 av 120 at \$7.75; to Parker, W. & Co. 14 av 140 at \$8.50, 25 av 135 at \$8.75, 6 av 145 at \$8.25, 21 av 140 at \$8.75, 20 av 165 at \$8.25, 7 av 135 at \$8.25; to Goose 4 av 105 at \$6, 18 av 125 at \$7.40; to Sullivan P. Co. 10 av 141 at \$8.25; to Strauss & A. 53 av 145 at \$8.75, 4 av 200 at \$6, 12 av 150 at \$8.75, 6 av 155 at \$8.50; to Nagle P. Co. 23 av 140 at \$8; to Goose 10 av 155 at \$6.25; to Sullivan P. Co. 6 av

155 at \$8.50; to Newton B. Co. 12 av 140 at \$8.75; to Nagle P. Co. 33 av 155 at \$8.75.
Roe Com. Co. sold Nagle P. Co. 48 av 145 at \$8.10.
Sharp sold Newton B. Co. 24 av 135 at \$8.35.
Sandell & T. sold same 21 av 150 at \$8.50.

Carmody sold same 6 av 150 at \$8.50.
Wagner & A. sold Sullivan P. Co. 5 av 105 at \$6, 22 av 145 at \$8.50.

Haley & M. sold Thompson Bros. 1 weighing 200 at \$6.50, 7 av 160 at \$8.25, 31 av 155 at \$8.25; to Freedman 17 av 140 at \$8.35; to Hammond, S. & Co. 23 av 150 at \$8.75, 9 av 150 at \$8.75.

Downing sold Nagle P. Co. 10 av 134 at \$8.35.

First sold Hammond, S. & Co. 13 av 150 at \$8.35, 4 av 155 at \$8.50.

Terhune sold same 12 av 150 at \$8.70.

Spicer & R. sold Nagle P. Co. 9 av 140 at \$8.25, 13 av 145 at \$8.50; to Sullivan P. Co. 7 av 135 at \$8; to Mich. B. Co. 1 weighing 180 at \$7.50, 3 av 150 at \$8.50, 15 av 125 at \$8.25, 1 weighing 210 at \$7.50, 6 av 125 at \$8; to Goose 2 av \$2.75 at \$6; to Rattkowsky 7 av 185 at \$6; to Nagle P. Co. 36 av 150 at \$8, 5 av 125 at \$6, 34 av 140 at \$8.25; to Mich. B. Co. 13 av 135 at \$8.50; to Burnstine 18 av 140 at \$8.25; to Hammond, S. & Co. 14 av 150 at \$8.75.

Sheep and Lambs.

Receipts, 1,010. Market strong at last week's prices. Best lambs, \$8@8.25; fair to good lambs, \$7@7.50; light to common lambs, \$5@5.75; spring lambs, \$8.50@9; fair to good sheep, \$4.25@4.75; culls and common, \$2.50@3.

Bishop, B. & H. sold Mich. B. Co. 2 lambs av 90 at \$8.25, 19 do av 80 at \$8.25, 17 do av 67 at \$8, 24 av 77 at \$7.50; to Sullivan P. Co. 28 wool lambs av 73 at \$8.60; to Nagle P. Co. 12 sheep av 120 at \$4, 26 do av 110 at \$4.25; to Fitzpatrick Bros. 14 lambs av 68 at \$7.50, 8 spring lambs av 60 at \$8.50; to Young 30 lambs av 75 at \$6.50; to Fitzpatrick Bros. 9 spring lambs av 55 at \$9, 7 do av 54 at \$8.75.

Haley & M. sold Thompson Bros. 33 sheep av 130 at \$4.50, 3 do av 125 at \$4.50.

Roe Com. Co. sold Mich. B. Co. 5 spring lambs av 61 at \$9, 14 sheep av 90 at \$4.50.

Sharp sold Newton B. Co. 17 sheep av 130 at \$4.

First sold Nagle P. Co. 30 sheep av 110 at \$4.

Spicer & R. sold Nagle P. Co. 17 lambs av 80 at \$7.50, 1 buck weighing 170 at \$3.50, 7 spring lambs av 55 at \$8; to Mich. B. Co. 2 lambs av 90 at \$8.25, 19 do av 75 at \$8.25, 17 do av 70 at \$8, 3 sheep av 88 at \$4.50, 3 spring lambs av 70 at \$9, 22 sheep av 90 at \$4, 87 lambs av 75 at \$7, 4 sheep av 150 at \$3.50, 10 do av 105 at \$4.75.

Hogs.

Receipts, 4,217. Market 10@15c higher than last week.

Range of prices: Light to good butchers, \$9.70; pigs, \$9.65; light yorkers, \$9.60 @9.65; stags one-third off.

Spicer & R. sold Parker, W. & Co. 340 av 200 at \$9.70, 160 av 170 at \$9.65.

Roe Com. Co. sold Sullivan P. Co. 376 av 190 at \$9.70.

Haley & M. sold same 428 av 185 at \$9.70.

Bishop, B. & H. sold Hammond, S. & Co. 1,714 av 180 at \$9.70.

Friday's Market.

June 3, 1910.

Cattle.

The run of cattle at the Michigan Central yards was very light on Friday, and the market was strong at Thursday's average on all grades. Local butchers wanted cattle badly and the seller had no trouble selling them as soon as put in condition. Milk cows and springers were also strong.

Bishop, B. & H. sold Mich. B. Co. 1 bull weighing 1,030 at \$5.50, 1 do weighing 1,010 at \$5.50.

Same sold Marx 3 cows av 920 at \$5, 11 do av 691 at \$6.15, 1 do weighing 870 at \$6.15, 7 do av 856 at \$6.50.

Same sold Kamman 4 steers av 932 at \$6.75, 2 do av 825 at \$5.

Sheep and Lambs.

The run of sheep and lambs was very light and the market steady on good grades, which were very scarce. Common grass yearlings and sheep are very dull and one small bunch of this grade had to be held until next week's market.

Best lambs, \$8@8.25; fair to good lambs, \$7@7.25; light to common lambs, \$5@5.75; spring lambs, \$8.75@9; fair to good sheep, \$4.25@4.75; culls and common, \$2.50@3.

Adams sold Hammond, S. & Co. 42 mixed av 80 at \$5.

Hertler sold same 89 lambs av 85 at \$8.10.

Bishop, B. & H. sold Mich. B. Co. 6 spring lambs av 53 at \$8; to Youngs 46 lambs av 73 at \$8.25, 17 do av 80 at \$8.25; to Haise 18 do av 73 at \$7.50.

Hogs.

The hog market was 10@15c lower than on Thursday, \$9.45 being the top paid for best grades.

Range of prices: Light to good butchers, \$9.45; pigs, \$9.40; light yorkers, \$9.40 @9.45; roughs, 1/2 off; stags, 1/2 off.

Bishop, B. & H. sold Hammond, S. & Co. 686 av 190 at \$9.45.

VETERINARY.

(Continued from page 602).

Also give 2 drs. iodide potassium at a dose in feed night and morning for 10 days. Be sure that the milking tube is perfectly clean before you use it. Either dip the tube in a carbolic acid lotion, one to 30, or boil it for ten minutes. Exposure to wet and damp cold air is perhaps the cause of so many of your young chicks dying. Keep them in a dry, warm place and you will succeed in saving the most of them.

Amputating an Old Sheep's Tail.—Condition Powder for Live Stock.—Is it dangerous to cut off a portion of the tail of a sheep that is four years old? I have

one that I should like to operate on, if it is not likely to kill her. I wish you would give me a formula for a good condition powder for live stock. H. W. J. Breedsville, Mich.—No, there is no great risk in amputating the tail of an aged sheep; however, when you cut it off be sure and open up the fleshy part and dislocate the vertebra, or else it may remain sore and not heal well; besides, be sure and tie a string around the tail and leave it on for 12 or 24 hours to prevent bleeding. Also apply equal parts powdered alum, borax acid and iodoform to end of tail every day. A very good and not expensive condition powder is made by mixing equal parts by weight of powdered sulphate of iron, ground gentian, quassia, fenugreek, ginger, baking soda and salt together and give a teaspoonful at a dose to every two sheep or two hogs, once or twice a day, a tablespoonful for horses and two tablespoonfuls for cattle, and it should be given mixed in feed twice a day.

Wry Neck.—I have a colt that was born with a crooked neck and since birth it has shown little change for the better. What can be done for a deformity of this kind? R. F., North Branch, Mich.—Nothing can be done for a deformity of this kind; however, I have known a good many similar cases to come out all right.

Leucorrhoea.—I have a valuable cow troubled with leucorrhoea that I have been unable to get with calf. What treatment would you suggest? U. G. S., Burton, Mich.—Leucorrhoea in cows is not by any means easily cured; however, good results will follow injections of permanganate potash and tepid water, 1 dr. dissolved in three or four quarts of water, using this quantity at a time and flushing out vagina once a day. Also give 1/2 oz. powdered sulphate iron at a dose in feed twice a day.

Wormy Ewes.—Is it advisable to treat suckling lambs for worms while the mothers are being treated with coal tar creosote and water, or turpentine and salt? J. H. H., Dolph, Mich.—No, I believe it is unnecessary to treat thrifty lambs, because they do not become wormy when living off their mother's milk.

Pigs Died from Food Infection.—Can you tell me the cause of death in my six-week-old pigs? They appear to be all right one day and the next I find one or more dead. They appear to be perfectly helpless for a little while before they die. I am feeding the sow on potatoes and milk. T. A. B., Sherman City, Mich.—I am inclined to believe that your pigs ate infected food, or else their mother is in an unhealthy condition. Without more symptoms I am unable to state the cause of their death; however, I am inclined to believe that they die as the result of food infection.

Diarrhoea.—Rheumatism.—My hogs are troubled with a looseness of the bowels and also appear to go more or less lame. Would it be advisable to keep such ailing hogs with my well ones? S. B., Davisburg, Mich.—It is always good judgment to remove sick animals from well ones; therefore, you had better do so. However, I am inclined to believe that they do not suffer from any infectious or contagious disease, but are sickened from either eating the wrong kind of food or drinking impure water. Give each hog 10 drops of Beechwood creosote and 20 drops fluid extract cinnamon and a teaspoonful of ground ginger at a dose either in feed or as a drench three times a day. Also give five grain doses of salicylate of soda three times a day until the lameness disappears. I also suggest that you change their food supply.

Dislocation of Stifle.—My three-year-old filly, that we have been working for some time, dislocated her stifle joint while in the stable. Our local Vet. put it back into place, then applied a blister, also left a strong liniment for me to apply. Now I would like to know if she is apt to have future trouble or not? She is a valuable young mare, therefore, I am anxious to see her make a good recovery. S. McD., Fairgrove, Mich.—Your Vet. managed the case very well. If the cap is inclined to slip out of place, stand her with forefeet three or four inches lower than the hind ones and apply enough liniment to stimulate the stifle, and if it does not slip out of place when she is worked or driven, it will do her no harm to be used and she should get entirely well.

FARMERS.—If you have wool for sale or to make into any description of pure fleece wool goods, write WM. LAMBERT, Woolen Mills, Reed City, Michigan, for samples and particulars.

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I am a farmer and have lived in Michigan for thirty-five years. I like Michigan people and I am trying to get as many as I can for neighbors in my new home in Benton County, Arkansas. I feel that I am doing a favor for every farmer whom I interest in Benton County, Ark. Farmers have a product to sell here every month in the year. \$200.00 to \$400.00 per acre can be made growing fruit and truck. The land is all high and dry; no mosquitoes, no malaria, no negroes; all law abiding, sociable people. Climate is grand; no winter to speak of and the summers are moderate, with cool refreshing breezes during the day, and summer nights are cool. It's a beautiful place, too; greatest ever for poultry; hens lay all winter. County has no debts, taxes are extremely low, no ditch taxes; finest roads I ever saw and the purest water. The recent frosts did not injure the fruit crops here. This is a sure crop country. It's a great place and fine farm land can be bought near a good town, only two miles from the railroad station, for around \$15.00 an acre. I want to put Michigan people right so if you are dissatisfied in Michigan write me personally and I will tell you honestly where to get the best and cheapest land. I know, because I have been through the mill and I know of splendid improved and unimproved places. I do wish that you could come here right now and see the fruit trees loaded down. It would open your eyes. Talk about vegetables, alfalfa, etc., etc. Well just drop me a line and I will tell you all I can, then come and see for yourself. Address:

J. J. SHIELDS, Benton County, Arkansas.

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WOMAN AND HER NEEDS

The Road to Happiness—It Lies Along the Way of Right Thoughts.

I wonder how many women who read these lines are happy, and how many are unhappy? I used to think that happiness depended upon circumstances. If I had money I was sure I would be happy. Money would get me a "happy" home in pleasant surroundings, with plenty of books, music, lectures, trips to all points of interest, cultured friends, and everything I was sure would make me happy. Lately I have changed my mind and have come to believe that happiness and unhappiness are simply habits which we acquire by long years of thinking either pleasant or unpleasant thoughts. We let our minds dwell constantly on our troubles, large or small, and we are unhappy. Like "Anne Shirley," we think of a blessing every time we think of a grievance, and we are happy and contented.

Happiness, I find, depends not at all upon our environments or possessions, but entirely on our thoughts. I know this because, without having my circumstances changed in the least, I am gradually changing from a very discontented, unhappy, fault-finding person, into a fairly contented human being. There are some fortunate, well balanced people who are happy by nature. They are cheerful, contented, happy and devoid of "nerves" from childhood, and look on the bright side of everything as naturally as a flower follows the sun.

Others who are nervous, gloomy, doubting by nature, have trained themselves into right ways of thinking by a strong effort of will. They have recognized the absurdity of always expecting the worst, of indulging in morbid and gloomy introspection when, after all, they had plenty to eat, drink and to wear and a fair prospect for the future, and they have forced themselves to adopt a brighter outlook. They have seen the fallacy and the evil results of bad habits of thinking, and have formed habits of cheerful and hopeful thought with a resulting good to themselves and their families.

But there are still many more women who are making their own lives a torture and their families unhappy because of their wrong way of thought. Scores and scores of women who are really in comfortable circumstances, surrounded by every comfort and who ought to be well and happy are sickly and unhappy just because of their mental outlook. They have formed a habit of faultfinding and complaining at some time in their early life when perhaps they did have misfortune, and it has grown upon them until it has them in the grasp of the greatest curse of our nation, next to drunkenness. Indeed, I believe were I asked to choose between a father who got drunk occasionally and a mother who found fault all the time, I should fly to the father. The father knows he is doing wrong and might be induced to reform. The mother actually believes she is a martyr and misunderstood by her family, and if one ventures to rebuke her for her carping spirit she brings argument after argument to bear to prove she has to scold and find fault to keep the family going right, and the only effect of your attempt to right her is to entrench her more strongly in her position.

For these women the doctrine of right thoughts would be a boon could they be made to see it. It is as easy to have a right frame of mind as to have a wrong one if only you exercise the will. Of course, one can not change in a day. The habit of wrong thinking took years to reach its present-day hold over you. So the habit of right thought will take time to acquire, because both are like every other habit, the habit of being right handed, for instance. If you lost your right hand, you could become skillful with your left, but it would take months or years to make it equal the skill of the right. So with right thinking. It may become as natural as fault-finding, but not in a day's time.

Do not read this and say, "Tomorrow I will be happy and well," and expect that your troubles are over. You will have to make a determined effort to break up your bad habit of thought, and speech, but in time as you persevere, you will find it easier and easier. And you will be surprised to see how happy you become under exactly the same conditions which formerly made you wretched.

Try learning in the morning a line or two brimful of happy thought, or learn it at night if you have more time. When morbid, angry, carping thoughts well up within you, repeat your lines over and over, until their meaning fills your mind instead of your past bitterness. There is a principle in nature that no two things can occupy the same space at the same time, so if your mind is occupied with a noble thought, even if it is another persons, it will not have room for a bad one.

DEBORAH.

MICHIGAN COUNTRY WOMEN AS MONEY EARNERS.—No. 6.

Raising Song Birds is a Pleasant and Profitable Occupation.

IS there an easier or pleasanter way of earning that extra pin money than by raising canaries? Of course, the busy farmer's wife might object to this way as all the work comes from March to July, the height of the busy season in the country, but the farmer's daughter who must stay at home to "help mother," and who chafes for a chance to earn a bit of money, would find this a pleasant and an easy way of doing it.

If you are going into it extensively you will need a breeding cage but if you are going to experiment, three or four ordinary sized bird cages will do as well. This is the way Mrs. Fred Depue, of Detroit, is managing at present, for this season she is doing little with her birds.

"The one trouble with them is, that they will splash my windows," sighed Mrs. Depue, who is the soul of neatness, as she showed her feathered pets. "But they like to be where it is light and sunny so I hang the cages by the window and just keep washing the glass."

"If you want to start raising the birds," explained Mrs. Depue, "you can usually buy a good female for 75 cents, though this year they are asking a dollar at the bird stores. Get a roller if you can, this bird has a beautiful 'roll' in his song, which adds to his value. Next in order of merit come the linnets, pretty green and yellow fellows, and then the yellow canary which is more common but not so good a singer as the first two.

"The male and female should be put in



Mrs. Fred Depue.

the same cage in March and the breeding season ought to end in July. Do not put paper in the bottom of the cage, especially newspaper, as the birds eat it and the ink on the newspaper is very bad for them. Instead, sprinkle clean gravel on the bottom of the cage. Feed the bird seed which you buy in bulk, first sifting it to be sure it is clean; give fresh water twice a day, and feed the female hardboiled egg when she is laying and a little lettuce two or three times a week while she is setting. At other times do not feed quite so much lettuce as it is loosening. Every

other day give the birds luke warm water to bathe in.

"After the birds have been mating a week, put in a wire nest which you have lined with a soft cloth, taking care to have no stitches on the inside. If you do the birds will catch their claws in the stitches, pull out the lining and tumble out the eggs. Give them bits of thread and cotton batting and they will work away lining the nest for themselves.

"The mother bird sets for 13 days, and usually hatches four young ones. The old birds must be carefully watched after the little ones peep out, as sometimes either the father or the mother gets ugly and kills all the babies. If you see the old birds acting mean, take out the little ones and feed them yourself. You will have to roll the seed for them, and be sure it is all cracked as their little bills will be too soft to crack it.

"In two or three weeks you ought to be able to pick out the singers, that is, the males. They will hop around and sing a funny little song, at this age, while the female will not sing for three months. As soon as your singers begin to sing, take them out and put in another cage. You can sell them for \$2.50 and upwards.

"Let the mother bird continue to lay and set until July. I have sometimes raised 28 birds in a season from one mother."

Of course, the problem with the country girl will be, "Where could I sell my birds if I raised them?" Just let people know you have them and see if the sales do not come. If you have fine stock you will have no trouble to dispose of it. Affiliate yourself with the state pet stock people, show your birds at your county fair and at the state fair if you can, and run a little advertisement in your county and state papers. In other words, if you haven't a market at your door, make one.

MRS. B. SAYS AUTOISTS GET TOO NEAR FOR COMFORT.

Dear Editor:—I hope Mrs. Ward did not think for an instant that I was unaware of the fact that we all owned automobiles, we would find the solution to the problem of traveling on the highways, but there are very few of us farmers who are the possessors of machines, so, as I said before, we are obliged to remain at home or drive in fear.

I surely am glad to know that there are drivers of automobiles who try to avoid accidents, when meeting teams. Isn't it barely possible that they are also trying to avoid paying damages which might accrue should anything happen? If owners of autos would obey the law, the danger would be practically eliminated, but I have noticed that the drivers do not stop immediately when the hand is lifted, but wait until they get within a short distance—too short a distance to avoid dangers. Should the horse be unmanageable. I'll admit that the younger generation of horses are becoming more or less accustomed to them, but even those who have been called gentle, and "not afraid of anything," have turned tail and run when they have seen a cloud of dust and a bright, glaring and evil smelling thing, coming straight at them, with every indication of a collision. I heartily wish with Mrs. Ward, that a separate highway might be maintained for their especial benefit, but as that is improbable I think I shall stay at home, or before I venture out, get my life insured.

I cannot see how the autoist can take pleasure in riding or view the beauties of nature as his whole attention must be given to guiding his machine. As for me, I am old-fashioned enough to long for the quiet rides across the country which my husband and I used frequently to take.

—Mrs. B.

MOTHER'S PIE.

BY L. C. BISHOP.

I've a vivid recollection,
How a score of years gone by,
I was never quite so happy
As when munching mother's pie.
On baking days I hung about,
Till I saw with boyish glee,
In the oven there was baking,
In a saucer, one for me.

I have sat at many a table,
Where each course was superfine,
I have tasted rare confections,
And have sipped the costliest wine;
But the food was quite forgotten,
While a tear drop dimmed my eye,
As I thought of our old farm house,
And my mother's apple pie.

THE FRIEND.

BY EUGENE C. DOLSON.

Of all who win life's race, how few
Who do not owe a debt, indeed,
To human friendships tried and true,
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WASH YOUR COFFEE POT, IF YOU WANT GOOD COFFEE.

No. 17.

BY MRS. ALTA L. LITTELL.

If there is one thing in the line of cooking that the average American woman fails in more than in another, it is in the making of coffee. There is nothing more refreshing and tempting in the morning than a cup of good, clear, hot coffee, and the average person can drink it without harm if it is properly made. Many people are injured by coffee because of the simple fact that the coffee is poorly made, made in such a way that the poisonous principles are all extracted, and the delightful aroma, which is the charm of coffee, is destroyed.

To begin with, half the women never empty their coffee pot from one day to the next, but from a mistaken idea of economy, put away the coffee which remains and add a little next morning. Then the coffee pot is set on the stove as soon as the kitchen fire is started and the noxious concoction left to boil and boil as long as the rest of the breakfast is cooking. In this way the tannin, which hardens the tissues of the food and renders it difficult to digest is extracted, and the coffee is made a harmful, poisonous drink instead of a harmless, agreeable one.

The coffee pot should be religiously emptied every morning and thoroughly washed the same as every other dish. Occasionally it should be boiled up with a bit of bicarbonate of soda. If you have a horror of the extravagance of wasting anything, measure the water every morning and make just the exact amount of coffee your family usually drinks. Then if any should be left over, it need not be wasted. Pour it off the grounds and use it in mince pies, ginger snaps, fruit cake, or to make coffee jelly, with a little gelatine, or coffee cornstarch pudding. Never, as you value your family's health, let coffee stand on the grounds. In first-class hotels, coffee is made fresh every 15 minutes as, after standing that long, it begins to extract the bitter principle of the berry.

Most of us make boiled coffee, though a few are so fortunate as to own a percolator. This is a fine way to make coffee, as here the coffee is in a cup at the top of the pot, the water is forced up through it by boiling, and when it is done boiling, the liquor is at the bottom of the pot with the grounds high and dry above.

If you boil your coffee, never boil it more than five minutes, three is better, and the best I ever drank was just brought to a boil and then removed from the stove. The usual proportion is given as a level tablespoonful of coffee to a cup of water; this does not mean a teacup but a measuring cup or a half pint. Allow this proportion to each member of the family, put the coffee in the pot, which has been previously scalded, with one egg shell for each spoonful of coffee, add a third of a cup of cold water and shake well together, and then add boiling water as needed. Stuff the spout of the coffee pot, bring to a boil, boil three minutes, pour another third of a cup of cold water through the spout to wash down the grounds and settle the coffee, and serve at once. If you wish it extra good, add a teaspoonful of fresh coffee just before you send it to the table. The boiling fluid extracts the aroma from the fresh coffee and should give it just the right flavor.

Tea should never under any condition boil. Use the same care in heating the tea pot that you did in heating the coffee pot, allow a level teaspoonful of tea to a half-pint of water, pour on the water and let it stand where it will not boil for about five minutes. Never any longer.

Remember, it is the tannin in tea which is injurious and that this is extracted by boiling. It is this which makes meat or flesh hard of digestion if eaten with improperly made tea. Of course, you will throw out your tea and wash your tea pot. If tea and coffee are properly made and drank in moderation, there is no reason why any adult should not drink them. It is intemperance in drinking them which injures the health.

Contrary to the rule for coffee and tea, chocolate should be well boiled to cook the fat. Cocoa, which has not so much fat, need not be boiled so long; but it is not harmed by boiling. These drinks may stand and be re-heated without injuring them or your stomach. If you are going to entertain in the afternoon or evening and serve chocolate or cocoa, you can

make either drink before the guests arrive and reheat after they have come when you are ready to serve. Of course, coffee or tea made this way would be ruined. And is there a more satisfying drink on a cold winter's evening than a cup of steaming cocoa or chocolate with a big ladle of whipped cream floating on top? They have the merit of being both food and drink, which coffee and tea possess only in a negative manner.

SHORT CUTS TO HOUSEKEEPING.

This department is opened as a means of exchange of new and successful ideas in homemaking. If you have learned something in cooking, sewing, child raising, fancy work, economy, anything which is helpful, and new, send it in. Twenty-five cents will be paid for every article used, but none will be returned. Keep your suggestions short.

Burn one cup of sugar until black, add half a cup of water after taking from fire. Put in a bottle and use three teaspoons with a little vanilla for flavoring a cake. It tastes like maple sugar.—G. A. H.

If you run out of butter and have not time to do the full churning, fill a two-quart fruit jar half full of ripe cream, and shake it. If the cream is just right you will have butter in about 10 minutes.—Mrs. C. S.

Try changing your sheets on washday. By the time you are ready to make up your beds, the sheets will be dry. Put them back on without ironing, they will smell fresher, and save folding and ironing them. Of course, this can only be done in the summer months, but every little helps.—Mrs. C. S.

When the little ones are restless at night try bathing them in tepid water. Put a loose, comfortable night dress on, give a light, nourishing supper before putting to bed. They are busy all day and can not rest when begrimed with perspiration and dirt. Consequently the mother's rest will be disturbed.—A Farmer's Wife.

A GOOD SUBSTITUTE FOR HARDWOOD FLOORS.

BY MRS. F. J. PHILLIPS.

We can not all have hardwood floors but we can all have a very good substitute. The floors in our house are all made of the ordinary six-inch soft flooring but I find them as easily kept clean as hardwood floors when treated properly. They were painted a dark oak color and then given a coat of one of the patented varnishes or enamels. When thoroughly dry, they can be waxed with any of the prepared floor waxes, the directions for applying which may be found on the label. The first time they are waxed after painting, I give two coats, rubbing each coat in well and putting on a very thin coat in all cases. The floors can then be wiped up with a broom enclosed in a bag made for that purpose and will shine as well as hardwood floors if treated properly. My experience is that it preserves the paint wonderfully, which I am sure is the greatest thing in favor of waxing.

Many a farmer's wife who sells cream often hungers for a taste of her own butter. She doesn't like to

save out enough cream for a churning, partly because it makes a difference in the check and partly because it takes so long to do a big churning and work the butter. For her there is a handy little contrivance which guarantees to churn a pound of butter in 15 minutes time. It is a glass vessel holding about a quart. A lid covers it tightly, and within is a paddle worked by a crank on top of the cover. The principle is the same as the Dover egg beater, only instead of the whirling wheels you have a porcelain paddle with four round holes in it. The vessel being all glass you see when the butter comes and there is no chance for flying drops of cream to spatter the kitchen. This churn is so small you can utilize it to dispose of the cream which you save for your family use and which sours before it is all used up.

Similar in construction to this churn is a contrivance for whipping cream and beating eggs. It is a glass jar of the same size and shape as the churn, the only difference being in the paddle which does the beating. In the churn it is porcelain while in the beater, wire paddles are used.

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HOME AND YOUTH

A TWENTIETH CENTURY GEORGE.

BY EVA MILLS ANDERSON.

"If you will hoe that patch of corn behind the barn, this morning, George, and do it well, you may go swimming this afternoon."

"Thank you, but, father," George twisted himself hesitatingly on his heel, "I'll hoe corn steady today and tomorrow if you will let me go to the circus, Wednesday. All the other boys are going and it will cost only fifty cents."

"A fifty-cent piece looked pretty big to me when I was your age, George, and I wouldn't have thought of spending one going to a circus. When you are a little older and less likely to be carried away by mere display I'll take you to a show and let you judge of them for yourself. I don't want you to grow up like some of the boys we know who feel as if they must go to everything that comes along no matter what it is or what there is to be done at home. Now do your work well this morning and this afternoon you will have a good time swimming."

George was not accustomed to controverting his father's judgment but the temptation to do so was strong as he walked slowly to the field.

"A little older," he repeated with an accent he would not have liked his father to hear. "Anybody would think I was a baby. I'm older than Harold Cover or Abner Raines or Loren Adams and they go and are good boys, too. I wish father wasn't so old-fashioned." George took up his hoe feeling very much abused, but by noon the hoeing was done and so well done that his father praised him highly for it.

After dinner Mrs. Ripley produced a basket. "Here, George, is a lunch for you to take to the swimming hole. There are some jelly sandwiches, a blueberry pie, some cookies and some chocolates."

"Thank you, mother, no other boy around here gets such a lunch as that when he goes swimming."

"Remember, it's like that all through life, my son; no one person has all the good things."

George had quite recovered his good spirits by this time and went whistling across the fields, taking a short cut for the Cover place but was intercepted by Aleck McRae who told him Harold Cover was not at home and, on learning George's destination, offered himself as a companion.

The swimming hole had been a favorite place for several generations of Trowbridge lads. It lay at the bend of the river and a large tree leaned over it almost horizontally, making a fine spring-board from which to dive, while the sandy, stony, shrubby bank afforded good dressing rooms and resting places.

What fun the boys had! Kneeling on a moss-covered rock at the water's edge they first soused their heads and then plunged in. The stunts they swam! They raced dog fashion, on their backs and straight. Then they dove from the old tree trunk, forward, backward, until thoroughly tired they came out to rest, talk and eat. The lunch basket was hardly open when Aleck began:

"Going to the circus, I suppose?"

"Don't believe I am. I'd like to go."

"What's to hinder?"

"I don't know whether my father will let me."

"Ef he was my dad I bet he'd have to let me."

"Do you always go?"

"Of course. You went last year, didn't you?"

"No, I've never been to a circus."

"Gee whittikins! I didn't—"

The sentence was never finished. As if prompted by Aleck's exclamation there came a loud "buzz, buzz, rattle, rattle." Both boys sprang to their feet ejaculating in unison, "A rattler, a rattler!"

"Where on earth is he?" gasped Aleck, afraid to stir in any direction lest he might run on the reptile.

"I can't see him but he isn't far off. That sounded as if he were just at my elbow. Let's throw some stones in those thickets and see if we can't stir him up again."

Following his own suggestion, George cast some pebbles into the shrubbery.

"There he is! I see him now! Don't you? He's coiled just beyond that tuft of grass."

"Come on, let's run," said Aleck, picking up the lunch basket.

"I'm not going to run; I'm going to kill that snake. Father says always kill a

rattler, if possible. If we don't kill him he may bite us or somebody else some day."

"My dad says always get on the safe side and let the other fellow look out for himself, and that's what I am going to do," replied Aleck, running up the bank.

George was looking for stones suitable for his purpose and he began using them with all the force he could summon. It took considerable pegging before a stone struck the snake with force enough to seriously hurt, but finally the rattle ceased, the coil unrolled and though the forked tongue still vibrated in the ugly, flat, triangular head, the reptile's power to injure was nearly gone.

"Come, Aleck, come back and bring that rail with you," called George to his companion.

Aleck cautiously returned until near enough to see that the battle was won.

"Gee! you did that fine. Now you can go to the circus."

"I don't see any connection between killing that snake and going to the circus."

"Don't you know that Lincoln township pays fifty cents apiece for every rattler killed in that town?"

"But this isn't Lincoln, it's Trowbridge."

"The other side of that forty-acre field is Lincoln, isn't it?"

"Yes."

"Now I'll tell you what we'll do. We'll carry that snake over and lay him down on t'other side of the line. Then we'll cut the rattles off and take 'em to Jim Peters, he's town treasurer, and we'll tell him you killed the snake over there and he'll give you fifty cents and you can go to the circus whether your dad's willing or not. See?"

"But that would be telling a lie."

"No, it wouldn't be much of a lie. I make out the snake was on his way over there and would have got there pretty soon if you hadn't stopped him. You just got in a little ahead, that's all. You tell Peters you killed him over there and I'll back you up. You needn't be afraid I'll ever let out on you. I won't do it—cross my heart I won't."

"Oh, I couldn't do that," replied George, wishing with all his might he could, he did so want to go to the circus.

"Pshaw, it'll be as easy as falling off a log. I know lots of folks that have done it, some of them grown men, too."

"It couldn't be very wrong," George thought, "to do what other folks did. If men did it it couldn't be wrong for a boy. It would be different if the money had to come out of Mr. Peters' own pocket, but the town would never miss fifty cents. If he didn't get the money this way he might not—"

"Come on, hurry up, what are you mooning about? It's quite a step to Peters'."

George took the rail and hit the snake two or three additional blows. Then he and Aleck slung the body across the pole and, each taking an end, they commenced their walk to Lincoln township. The rattler was a big one and one end or the other would drag though the boys lifted it as high as they could. Sometimes the reptile would slip from the rail entirely and they would have to replace it, which was not a very pleasant job.

"It won't do for us to go by the road," said Aleck, "somebody might see us. Anyway the trail'd show; we'll have to keep along close to the river."

"Somebody might see us," George repeated to himself with a decided feeling of uneasiness. He wasn't accustomed to doing things at which he was afraid to be seen. Aleck's remark turned his thoughts in a new channel.

"What will I tell father when he asks me where I got the money," he mentally queried. "I can't lie to him, and maybe Mr. Peters will ask me some questions I don't expect. If he goes to questioning me I'll break down, I know I will. Then maybe he'll tell on me and everybody in the neighborhood will know the whole story. My! I'd rather never go to a circus than have that happen. I don't believe I dare do it after all, there's too much risk. And I wouldn't be afraid of father or folks finding it out, or of Mr. Peters, if the thing wasn't wrong. I know it is, even if Aleck says it isn't."

Yes, there was Aleck to be considered; George had almost forgotten him.

"What would Aleck say," the thoughts of the unhappy boy went on, "if the boy he had been helping to carry that heavy, gruesome, slippery load, backed out at the end of the trip? He would be angry, perhaps; anyway he would make fun of him." George hated to be made fun of.

Aleck was talking glibly. Such phrases as "feeding candy to the monkeys,"

"tight rope walker," "seeing the lions fed," entered George's ears without becoming a part of his mental processes to the slightest degree. Desire to go to the circus, fear of Aleck's anger and ridicule, horror of being caught in a lie and meeting public disgrace, and above all, the consciousness that he was about to do a shameful act put George in a very distraught condition of mind.

At last the lads crossed the line of the adjoining township and laid their burden in the field on the Lincoln side of the road.

"Take your knife and cut off his rattles," commanded Aleck. "He's an old one—ten rattles and a button. You deserve a dollar for killing him."

George cut the rattles and put them in his pocket.

"Now we'll hustle up and go to Peters! We'll show him the rattles and if he don't believe we killed the varmint in Lincoln, we'll tell him to come over here and see for himself. Hold on a minute while I beat down the grass a bit. There, now. Come on."

Just why he could say it then when he had lacked courage to say it before, George never could tell, but he replied stoutly, "I'm not going to Peters'."

"Not going to Peters! Then why in the jumping Moses did you come this far?"

"I came because I hadn't thought out how mean I would feel to go to Mr. Peters and tell him I had killed that snake in Lincoln when I had really killed it in Trowbridge. I never could look him in the face again," replied George, his horror at the dishonest act he had contemplated growing stronger every moment.

"But you'll have to stay home from the circus if you don't get your money this way, and besides I'll tell all the fellows and they'll call you a softy."

"If you tell the thing straight the fellows won't call me a softy, and anyway I don't care if they do. I'd a hundred times rather stay home from the best circus that ever was than lie and steal to get there."

"Steal! Who said anything about stealing?" angrily interrupted Aleck.

"I did. It's the same as stealing, anyway," protested the sorely tried lad.

"Oh, come on, George," said Aleck, changing to a wheedling manner. "I'll do all the talking to Peters. You won't have to say a word and you can have the money just the same. Don't be such a fool as to lug that heavy snake over here and then back out."

"I'm real sorry, Aleck, I put you to so much trouble and I thank you for trying to help me, but I am not going to Peters' and I am not going to let you go for me. Will you go back with me? I'm going home now."

"No, you booby, I'm not going to be seen in company with any such baby as you are," snarled Aleck. "That's what a fellow gets for trying to help a ninnny. Fraid-cat, fraid-cat," he called as George with a friendly good-by, turned resolutely toward home.

"Fraid-cat, fraid-cat, ninnny," and many other unpleasant names sounded in the ears of the troubled boy as long as he was within hearing.

"I don't suppose Aleck will ever speak to me again," he soliloquized, "but I can't help it. I do wish he wouldn't tell the boys, but I know I did right and I guess I can stand their jollying."

On reaching home George displayed the rattles but he did not tell the whole story until he and his mother were alone after supper. She must have told his father, for the next morning Mr. Ripley said to his son, "Put in a good day's work at the corn, today, George, and tomorrow we'll all go to the circus. And do you know, my boy, what will be for me the very best show under the canvas?"

"No, what is it?" questioned George almost beside himself with joy and surprise.

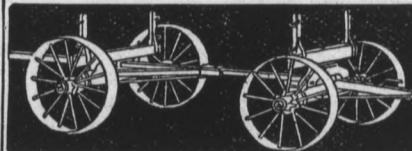
"It will be the boy, my boy, who couldn't tell a lie."

George felt at that moment that all the jibes the "fellows" might cast at him would weigh little in comparison with this praise from his father. Then a sense of humiliation overcame him as he remembered how close he had come to yielding. "But I came awful near it, father; I'm ashamed to tell how near," he confessed. "We are all liable to be tempted, George, but if you always succeed in getting on the right track before you've actually done wrong, as you did this time, I'll be satisfied."

So George went to the circus with his mother and father, and of all the happy boys who witnessed that "greatest aggregation on earth," George Washington Ripley was the happiest.

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CROP AND MARKET NOTES.

(Continued from page 604).

are off a little again. Other produce is little changed from April prices.

Clinton Co., May 31.—With the exception of a few warm days the middle of the month May was an exceptionally cool month with three heavy rains and four frosts. Old meadows will be light but new seeding will be heavy. Wheat is the surprising feature of the day, fields that showed scarcely anything early now promise an abundant harvest. Corn is up, some fields being cultivated to head off the cutworms, which are reported to be quite numerous. Farmers are busy preparing the ground for beans; many fields will be drilled the first week in June. As near as can be ascertained early pears have suffered most by the early freezing. Apples, peaches and cherries promise 50 per cent of a full crop. Wheat, \$1; clover seed, \$6; potatoes, 20@25c bu. and the supply more than equals the demand; No. 1 timothy hay, \$12@14 per ton; eggs, 18c; dairy butter, 21c; hogs and pigs out of the question, none for sale at any price; milch cows in good demand, selling with calves by side at \$40@60.

Washtenaw Co., May 30.—While the weather is very cold for so late in the season and we have had some frosty nights, still wheat, grass and oats have improved steadily and promise to make a good crop. Farmers are feeling some uneasiness over the corn situation, the crop promises to get a tardy start in the race for maturity, but while poor for the corn plant it is uncommonly good for the cutworm, which in this section is thicker than ever before and promises to be very destructive. A good corn crop seems especially to be desired owing to the high price of all meats and the consequent profits in its products. Hogs at present, \$9.25; live cattle, 4@6c; eggs, 18c; very little grain sold other than through some form of stock or dairy cows which tend to largely increase the prosperity of the farmer.

Kalkaska Co., May 30.—Very backward spring. Cold since the 10th of April, with continued unfavorable conditions. Corn all planted and 60 per cent of potatoes also. Fall grain looking fairly well. Stock in good condition. Hogs scarce and high. The majority of farmers patronizing the creameries, getting Elgin prices for butter-fat. Everybody interested in good roads proposition and county commissioners pushing the work.

Lapeer Co., May 30.—Cold rains and winds now characterize Michigan weather. Will it allow us crops of corn, potatoes, beans, etc., this year? They do not seem to grow much as yet. Lots of potatoes are now being planted. Some will plant corn yet. Weeds very vigorous; the writer will have to cultivate his corn before it comes up so as to keep the start of the weeds and grass. Wheat, meadows and pastures need warm weather to keep them up to date. Some old hay yet on hand, which brings from \$3 to \$10 per ton. Highway improvement is now in order. Spring pigs selling at \$4 per head. Next week many will put in their beans. The price of wheat is going down. Oats, 40c; potatoes, 17c; corn, 60c per bu.

Jefferson Co., Ohio, June 3.—Corn is coming up but most of it is looking yellow. We had a pretty heavy frost on the 28th of May and lots of wet weather after that. Farmers shearing sheep now. Grass not growing much until lately, when it has picked up a little. Corn, 75c; wheat, \$1.10; oats, 50c; eggs, 18c; butter, 18c lb; bacon, 15c; farmers not planting as many potatoes as last year, but the potatoes that are up are looking good. Some orchards that are on the hills are loaded with fruit, while others that are in the bottoms have no fruit at all.

St. Lawrence Co., N. Y.—The spring opened with a warm March which was followed by a cold, wet May. The growth of the grass was forced and the hay crop looks favorable, also the grain. A larger acreage of corn is being planted than heretofore and there is more wheat on the ground. Wheat has not been grown here extensively for many years. June 3 we had one of the hardest frosts this section has known for years at this season. Butter sold last week at 29c for fancy; cheese 15c; eggs, 21c; potatoes plentiful at 25c; milch cows are high; grades selling from \$50@80.

Milwaukee Co., Wis.—On this side of the lake we had to suffer very severely from the terrible and unprecedented cold and stormy weather of April, after having such a beautiful March, all vegetation advancing before its time, and later the heavy freezes in May. Early apples, pears and plums are all gone; currants, gooseberries and cherries are also completely killed; there may be a few straggling cherries but not enough to mention. Fall and winter apples about two-thirds of a crop promised, which estimate may have to be raised after the June drop. Strawberries 60 to 75 per cent of a crop, much corn not planted yet, too much rain, ground too wet. Oat seeding looks fine; rye and wheat also. Early potatoes are up but late ones not all planted yet.

Polk Co., Wis., May 30.—May has been quite dry, with a lot of frosty nights. Corn is mostly planted. All grains are looking good, but need some rain. Hogs are selling at about 8c a pound; fairly good beef at 3@4½c; eggs, 17c; milch cows from \$35@50; horses very high; potatoes 10c a bu; butter, 30c a lb; wheat, \$1; oats, 35c; corn, 55c, but very little of it.

Warren Co., Ill., May 28.—Farmers all re-planting corn, owing to cool weather and poor seed. A good bit of rain lately for good corn weather. Largest acreage of wheat for years, with prospect of large yield. Meadows and oats looking fine. Only four or five good corn days so far. Garden truck not done much until the last few days. Fruit all killed except strawberries and cherries which will be about half a crop; also a few grapes on the second growth. A good pig crop with old hogs scarce and high. Buyers pay 16c for eggs; 20c for butter; corn, 60c; oats, 50c; potatoes, 35c.

FARMERS' CLUBS

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

DRY FARMING.

(Paper read at the Associational meeting by Mr. H. P. Bush, of Tuscola Co.)

The subject of dry farming is one which is receiving constantly more and more attention. Every farmer is more or less aware of the elementary principles involved in the so-called dry farming, but to understand the scope of this great movement, one needs but to consider the fact that there was held recently in Billings, Montana, a dry farming congress. This great meeting was attended by more than 700 delegates. These delegates were from every state in the union west of the Mississippi as well as from Turkey, Hungary, Russia, Germany, South American countries, Mexico, Central America, and Canada.

This was not the first dry farming congress ever held, but rather the fourth. We are assured that dry farming is no longer in the fad or experimental stage as we reflect that these delegates represented the cream of agriculturists of our great and growing west.

The present population of the United States is approximately 90,000,000 people, and statisticians tell us that the agricultural interests and resources of our great nation could easily be made to support 500,000,000. Granting that their computations are correct, we are safe in assuming that if the United States is to respond readily and easily to the needs and demands of her rapidly increasing population, then many of the present methods which border on carelessness and 'we might almost say shiftlessness, must be laid aside and in their stead must be followed methods which have for their aim the conservation and maintenance of the highest efficacy of the soil.

Our finite minds can not comprehend what it means to feed 500,000,000 of people, but we, as Americans, are somewhat credulous when it comes to the matter of believing great things about ourselves. We do believe that this will be possible, and it will be a matter of pride for this nation if in the course of time it can measure up to such an ideal; but if this time ever comes to pass it will be preceded by a pushing back of the frontiers until there will be included within the scope of arable lands many of the semi-arid regions which at present are regarded as worthless. If we are to measure up to this ideal not only will the acreage of tillable lands be increased but the soil now under cultivation must be improved and brought to a higher state of efficiency.

So much as to the economic phase of our question. It now becomes our duty to show what is meant by dry farming and to show what relation it bears to the economic conditions already alluded to in this paper.

Dry farming is a system of farming which has for its purpose the conservation of moisture in the soil until such time as this moisture may be used for plants grown upon such soil.

The distinguishing feature of dry farming is to thoroughly pulverize and pack the soil during such period when there is an abundance of moisture so as to increase the power of the soil to retain and hold moisture. When this has been thoroughly done as the dry season approaches, the surface of the soil to a depth of several inches is thoroughly and repeatedly pulverized so as to produce a dust mulch to act as a blanket to the moist soil beneath and thus to prevent evaporation of the stored-up moisture.

There are some sections of the west where irrigation and dry farming are absolutely necessary for the production of a paying crop. Here in our own state there are many farmers who do fairly well in spite of their lack of attention to some of these scientific matters, all because conditions of soil are so favorable and the rain falls at intervals and thus the moisture in the soil is replenished. The ordinary farmer, when the corn leaf curls for want of moisture, says it is too dry, and when the corn stagnates in growth and turns yellow because the free water is too near the surface he says it is too wet. This general observation does not serve to stimulate the farmer's interest in his farming operations as they effect this particular crop.

(Concluded next week).

CLUB DISCUSSIONS.

The Rainy Day.—The Hadley and Elba Farmers' Club was very pleasantly entertained at the M. E. Parsonage by Rev. Barnum and family. This was the first May meeting in the history of the Club and was much enjoyed by all present. The roll call was answered by a quotation from Longfellow, followed a solo by C. P. Johnson. The "Mutual Relation of Home and School," as presented by Revs. Barnum and McLeod was full of ideas of stronger co-operation, that we may attain higher ideals in our educational system. Mrs. J. W. Tower thought the women, as well as the men, should rest on "Rainy Days." If the men are not working as hard they do not need such hearty meals. This topic elicited many ideas on how to utilize our rainy days—repairing tools and machinery, looking after the small details we are too busy to attend to during the good weather, etc., while some advocated visiting during the stormy weather. Because of sickness in the home of Chas. Riley, and the conflicting dates of commencement and alumni reception, the next meeting will be at Walnut Ridge with Mr. and Mrs. Wm. Bartenfelder, on Thursday, June 23, at 1:30 p. m. This will be Children's Day and they will furnish the program. Come, hear them, and enjoy the day.—Mrs. C. P. Johnson, Sec.

GRANGE

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

MORAL DEVELOPMENT OF CHILDREN.

(Paper read at a winter meeting of Antrim Co. Pomona Grange by Prof. P. F. McCormick, of the Mancelona schools, and published by request.)

In my observations of young life I am more and more convinced that the great burden of moral development is placed upon the public school teacher, and I am just as certainly convinced that this burden does not repose in vain. I believe that even the clergy will be compelled to admit that the Sunday School falls short of the mark and in many instances breeds riot that takes the home and the school the rest of the week to quell. It is always conducted by good people, but seldom by trained teachers who understand the possibilities and limitations of childhood. The home should do, and often does, much to help the good cause, but in these days of high prices both father and mother are pushed to the limit by their physical and nervous capacity in their endeavors to keep up the family and have no time to make the necessary careful study of the young life entrusted to their care.

The best part of the child's life and activity is spent in school, and this activity is almost entirely under the direction of the teacher. Upon a careful observation of the work of our schools—one without prejudice or malice—one thing must be apparent, that in the entire work of the day, from the opening exercises Monday morning to the literary and musical program Friday afternoon, all the activities of the school are shot through and through with moral significance. At least this has been true in all my observation and I believe the schools observed have been representative.

Morality is based upon feeling and not upon knowledge primarily, therefore I do not believe in formal teaching. I do believe in creating in the child unconsciously the desire, the hunger if you please, for right actions. The expounding of moral platitudes will never save the young people. There must be something more real, more tangible, and this something is the personality of the teacher, thoroughly sensible to her opportunities and responsibilities, which must pervade the sensitive young minds with which she is associated.

Perhaps the first thing that we as parents should know is that the child is not a small adult. The human animal passes through distinct and separate stages of development, each one of which should have careful and systematic study and treatment. There is, of course, first of all, his heredity which has a great influence upon his history but which I do not care at this time to discuss. All teachers should be optimists and as such must necessarily emphasize the environment side of the child's development rather than the hereditary, although every good teacher should be thoroughly familiar with the hereditary factors.

From the age of two to seven or eight the child grows gradually in height and weight, but not nearly so rapidly as during the first year, or during the years following this period. The child's brain grows rapidly during this period and reaches its full development at the eighth year. The child is very active mentally at this time and learns language with

enormous strides, yet his motor nerves are not well developed and we find him unsympathetic and incapable of producing perfect work in any line. He is very receptive at this period, and for this reason imitation plays a most important part. During this period his idea of right and wrong is very crude and it is here that over-zealous parents or teachers who set up the same standards of morality they would demand of an adult do an irreparable injury to the growing human animal.

In this connection let me emphasize the fact that the old idea of development must give way to the new. The old idea of suppression of the child's activities has had its day. The new idea, based upon the fact that the child is not necessarily created with an inborn instinct to sin, the heritage of wicked Eve and vascillating Adam, but with the desire and love for doing, aims to draw out the constructive possibilities. Its command is "do this," as opposed to the old "don't do that."

During this period we may not look for any astonishing signs of morality or truthfulness. At this period we may say that the child is neither moral nor immoral, but unmoral, with the latent possibilities of moral development. We must not be shocked if he shows no signs of shame at nakedness, and we should not brand him as a liar if he tells what to adults would be false. Neither must he be condemned as a thief if he fails to realize the rights of others. His training at this time must be positive. By means of the play impulse he must gradually be led to respect the rights of others, and anyone who cares to take a day to visit the kindergarten or primary grade of our public schools will be soon convinced of this statement.

I mentioned the fact that during this period imitation plays a most important part. Watch the growing child of this period and you will see that all his play is based upon imitation. It is during this period that they are very apt to learn profane and even worse language. They should not be punished for using it, for they do not realize that it is wrong. Yet skillful methods should be used to have them discard this kind of talk before the real evil of filling in the contents of these empty words with meaning. It is not the period when the parent may say, don't do this because papa does not want you to. It is the time when the child learns to do just what he sees done.

The very important thing with the child at this time is not so much what he can learn, but how much he can grow. Plenty of good sunshine, good clean dirt, good wholesome food and plenty of sleep mean more for the future of your children of this period than perfect records made in school.

What may be done for him morally during this period? No formal moral training should be given. The reason for it is plain. You will develop moral indigestion. He is not in the right condition to assimilate moral truths. Give plenty of good examples, not only from stories which are good, but in your own daily life let him have a living pattern. Do not say, "Do so and so, Johnny, because it isn't nice and papa and mamma would feel bad, etc." If you desire Johnny to learn to eat oatmeal you would not say, "Now, Johnny, eat this oatmeal, because your mamma and papa want you to be a good strong man and this oatmeal is just the thing for you and if you do not eat papa and mamma will feel so bad, etc." No, you would perhaps make the dish very attractive with cream and sugar and place it at his place for breakfast. If Johnny should look at it with disfavor and refuse to eat you would, like all good mothers, say, "Very well, Johnny, run out and play;" and after he had gone you would lay the breakfast up in the cupboard to await Johnny when his appetite became better. By so doing you would make use of his natural appetite to teach him to eat the right kind of food. In precisely the same way your early moral training must begin. By your own example, by stories, by pictures, and by the beauties of nature you must create in him the moral hunger which, aroused, will find plenty of the right sort of sustenance.

(Concluded next week).

COMING EVENTS.

Pomona Meetings.

Newaygo Co., with Big Prairie Grange, Wednesday and Thursday, June 8-9.
Western (Ottawa Co.), with Conklin Grange, Saturday, June 11.
Osceola Co., with Sears Grange, Thursday, June 23.
Emmett Co., at Petoskey, Friday, June 24.
Ingham Co., with Vantown Grange, Friday, June 24. Bros. Roy Robb and E. A. Holden, state speakers.
Lapeer Co., with Rich Excelsior Grange at its hall in Rich, Wednesday, June 29.

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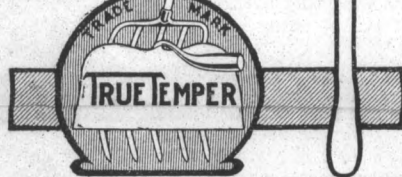
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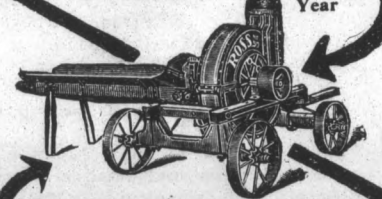
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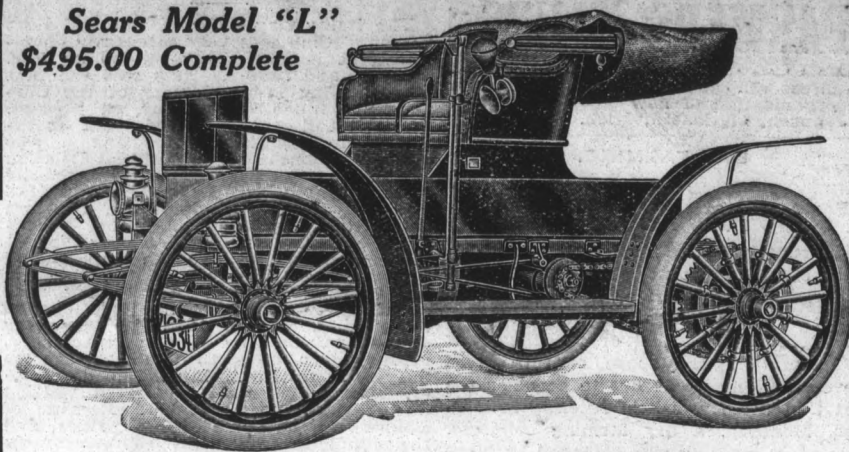
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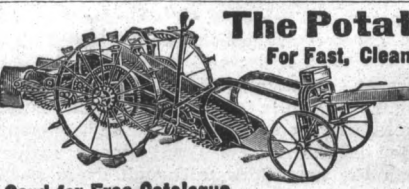
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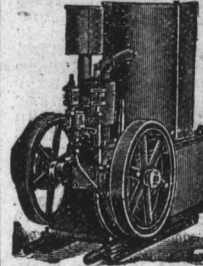
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