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Potato Blight.

THE blights or two fungous diseases of the potato plant are becoming more important year after year to the potato growers. During favorable weather as much as 50 per cent of the potato crop has been lost, due to the injury caused by this fungus. Many farmers think that the early death of the vines is due to early ripening, but this is not the case.

The two important potato blights are the early blight (*Macrosporium Solani*), and the late blight (*Phytophthora Infestans*). The latter is of more economic importance than the former. It produces the early death of the vines as well as a dry rot on the potato tuber while the early blight causes only the early death of the vines.

The early blight makes its first appearance during July, or at the time the potato plant first begins to bloom. This fungus lives on the tissues of the plant and spreads its mycelium through the intercellular spaces of the leaves. The mycelium is thread-like and more or less branched. The tissues of the potato leaf die and cause a characteristic brown spot, circular or elliptical in shape and marked with concentric markings. These spots increase in size until they form large patches of dead tissue. If the leaves of the plant become injured or are bruised in any way, it is more susceptible to the attack of the fungus.

In a field where this disease has once gotten a good start it cannot be controlled, but if the plants are sprayed with Bordeaux mixture just before the fungus makes its appearance, its growth can be checked. The Bordeaux prevents the germination of the spores upon the surface of the leaves.

From an economic point of view the late blight is the oldest potato malady. The great famine of 1845 in Ireland was largely due to a failure of the potato crop, caused by the destructive effect and prevalence of the late

blight. If one of these spots is examined, 8 lbs. of burnt lime and 75 or 100 gals. of water will furnish enough Bordeaux to be found to be bordered by a grayish spray one acre, or at a cost of \$2.00 per white mildew. By use of the microscope acre. Before mixing the lime and copper sulphate it should be dissolved separately in a large quantity of water and then mixed. Only one or two days' supply should be made at once, as it does not hold its strength if kept longer than this period. If spraying is done during damp weather the mixture should be diluted to 75 gallons but during favorable weather it should be diluted to 100 gallons. Several sprays may be necessary. Where two or more sprayings are given apply the first one as soon as there is a good development of vine.

Since the potato blight is annually causing a heavy loss it is essential that every farmer use every possible measure to prevent the development of this fungus.

Indiana.

are the spores prevented from germinating on the leaves, but those that may fall upon the ground are rendered powerless by the copper sulphate in the soil from the Bordeaux.

To prevent this fungus disease it is important that seed be selected which is not infected in any way. It should be allowed to dry thoroughly before storing and then placed in a cool, dry place. After the potatoes are dug the vines should be burned, and in serious cases it may be necessary to pull the vines off and burn before digging the potatoes, to prevent infection of the tubers. Banking the dirt around the rows causes a thicker layer of soil around the tubers and prevents the spores from getting to the tubers.

Some varieties of potatoes offer more resistance to the late blight than others. It may be said, however, that while certain varieties show a considerable degree of resistance, yet it is also true that no variety may be expected to maintain such resistance through a long period of time.

In preparing Bordeaux mixture it is important that the copper sulphate be 98 per cent pure. The lime should be freshly burnt. Twelve lbs. of copper sulphate,

VALUE OF TEMPORARY FENCING.

The age of high-priced land is here—and going higher year by year. The price of farm labor has already reached a point that discourages the farmer who is in debt and has to depend mostly on outside help to operate his farm. These conditions are here to stay. They must be given serious thought by any farmer who expects to increase his earnings and make a dividend on his investment. How many farmers have ever thought of the hundreds of dollars that "small fields" and hundreds of rods of "unnecessary fences" are costing them each year. Of course, small fields are handy for stock, especially. But they are too expensive, and by no means pay an income for the damage they do. In fact, it is not necessary to have a single permanent fence on the inside of any farm, no matter whether it be 40 acres or 600. The outside should be well fenced so that you may know your stock is on your own farm and other people's excluded. But the inside fences should be temporary and removable. I am informed that down in Ohio, where the land is very high, they have no road fences even, and

level, productive land, near the buildings, in one field. I can then have rows of corn 160 rods long. Will have a strip of corn, a strip of hay and a strip of grain. By farming this way it is going to save me over \$100 each season in time and labor, besides the extra acres of land that the fences take up; also the up-keep of the fences as well as the interest on the investment, which in all would amount to at least \$200 annually.

Now, brother farmers, is not this worth saving? You may say, what are you going to do for fences when you want to turn your stock in your fall clover or your stubble? Two men will construct a temporary fence down this 160 rod line in less than a day. All that is necessary is to have some good anchor posts at each end where your fence starts, which should be left there for the purpose. Then have about 75 or 100 good oak stakes to drive along about two rods apart. A woven wire fence four feet high and a barb wire on top makes a good fence, which can be tied to the stakes with soft wire. This same fence can be removed in one day and there you have the whole deal in a nutshell. If this same 160 rods was divided in 40-rod parts and a cross fence

at each point, look at the extra turning and trampling down of valuable crops I would have to pay for. These little "odds and ends" are seldom given even a sober thought, yet they are costing millions every year. All of these things help to make farming more discouraging and is it any wonder that so many farmers "work hard" for 40 years and never make much progress?

There are many items of farm management in which reforms are needed. We are all working, or should be, for some purpose and unless we figure on economy and save the time that is liable to be unprofitably utilized on our farms, we must not expect to reach the desired goal.

Farming can be made easy and profitable with the right kind of management, but it is uphill business to be doing two days' hard work, when "one" easy one will answer the same purpose. You can accomplish a measure of this in having less fences and large fields on your farms.

Washtenaw Co. B. F. WASHBURN.

ALFALFA CAMPAIGN IN MICHIGAN.

The accompanying cut shows the result of the alfalfa campaign in one Michigan community which is typical of the results in the state at large. The alfalfa club, the membership of which is shown in the illustration was organized July 15, by Hon. A. L. Duell, of Emmet county. Previous to the inauguration of the present alfalfa campaign some 79 similar clubs were organized by M. A. C. field men, and many more have been organized by county agriculturists in recent months. These clubs and individuals who have become interested in the possibilities of alfalfa, will soon furnish valuable object lessons to the farmers of all sections of the state.



Membership of Bliss Alfalfa Club, Recently Organized in Emmet County as a Result of the Alfalfa Campaign.

J. C. KLINE.

BEAN DISEASES OF MICHIGAN.

There are two serious diseases of beans in Michigan—bean anthracnose and bean blight. Bean anthracnose is caused by a parasitic fungus whose scientific name is *Colletotrichum lindemuthianum*. It is found on practically all parts of the bean plant and causes blotches, more or less circular, usually about the size of one's thumb nail, upon the leaves. On the stems long cankers sometimes extending along the stem and into the ground are caused by this pest. On the pods typical areas are produced. Red or maroon colored spots appear on the pods and these enlarge in a day or so until they are about the size of a bean. In general these spots are circular but two or more may run together to make a kidney-shaped "sore." These spots have a sunken center and soon this sunken center becomes yellow with masses of spores. These spores do not blow about as do most spores because they are sticky and dry down to a crust but with rain or heavy dew these spores soak loose and are brushed about by the swaying plants, or transported by insects and the infection is soon spread so that no pod escapes. Cultivation of fields immediately after a rain or early in the morning is to be avoided. The growth of the fungus is not restricted to the pods but the threads of the pest grow into the seeds beneath the fungous spot. Examine a badly spotted pod and you will find the seeds beneath the pod are all discolored. This discoloration shows a dangerous condition in the seed.

Bean Blight.

A very serious disease of beans in this state is caused by the bacterial organism, *Bacillus phaseoli*. The attack of this germ is much like that of the anthracnose with the exception that the spots are not so large nor so regular and the color in the advanced stages is not so deep a red as is produced by bean anthracnose. In general the pods and the leaves are spotted with amber blotches.

Control.

Professor Whetzel has shown that it is possible to avoid absolutely bean anthracnose. To do this the farmer must recognize the disease and select pods for seed which are absolutely free from spots. These pods must be threshed apart from the general run and such seed should be kept in tightly sealed jars and planted in clean ground at some distance from the infected fields. If selection is careful these seeds will give plants entirely free from anthracnose. If it is not possible to secure seeds enough for the entire field, the selected seed may be planted in a separate patch and be used as a source of seed supply for the following year. There is no general control measure for bean blight since it is much more difficult to find pods absolutely free from blight germs.

Spraying with Bordeaux mixture as found by Professor Halsted, is said to have a beneficial effect on the crop. Its value for controlling bean anthracnose has been questioned by Whetzel. With the lack of experimental evidence it cannot be said whether it is best to spray or not.

Mich. Ag. Col.

G. H. COONS.

FARM NOTES.

Fitting a Poor Sand for Alfalfa.

I have a sand hill of about one acre which is about three feet above the other land. Weeds are about all that will grow upon it. In 1910 I seeded it to clover with oats. The clover came in patches on the lower land. In 1911 I sowed alfalfa with oats. It did a little better than the clover, but did not make a crop. I have a lot of hen manure and coarse horse manure which I thought of putting on this land and plowing under, then harrow to keep the weeds down and sow to alfalfa and oats in the spring. Can you suggest a better plan?

Saginaw Co.

A. H.

Undoubtedly what this soil needs is more vegetable matter in it, which could be secured by sowing some crop for green manure to be turned down next spring as a preparation for alfalfa. Doubtless rye and vetch would be the best combination to use for this purpose. Also it is possible that this soil needs lime for alfalfa. If so it would be well to apply it before sowing vetch or the application could be delayed until the ground was plowed for the alfalfa in the spring. If a crop of rye and vetch is plowed down and the hen manure applied on the surface and disked in, and if an application of lime is also made, there should be no good reason why a good stand of alfalfa could not be secured on this land. The plowing down of a crop for green manure will add sufficient humus to the soil so that it will hold mois-

ture far better than it does in its present condition. It would be a somewhat expensive method of preparing the soil, but would, in the writer's opinion, be more profitable than successive failures in attempting to get it seeded without such treatment.

Pea Weevil.

Will you kindly tell me whether there is any way of treating peas for bugs? Newaygo Co. H. K.

There is no good way of protecting the growing crop of peas from weevil. The matured insect lays its eggs on the pods and directly over each pea. The grub, when it hatches out, eats its way through the pod and into the pea, where it passes the winter and emerges about planting time the next spring. The seed peas can be treated so as to prevent damage to the succeeding crop in several ways.

One method is to place them in a tight box and subject them to the fumes of one or two ounces of bisulphide of carbon to each hundred pounds of seed. Another method is to pour the seed peas into water when the infested peas will float and may be removed. Other methods of destroying weevil are to heat the peas to a temperature of 145 degs. F. or by soaking them in boiling water for one minute. Another method is to keep the peas over one season in a tight box and during this time the beetles will emerge from the peas and die.

A Catch Crop After Barley.

Could I sow any green crop on a sandy loam field that has been in barley? I want it for a fertilizer. Would it be too late to sow sand vetch? Would rape make any growth in fall? I had it in early potatoes last year and seeded it to clover and the winter killed it all out. Calhoun Co. G. E. S.

Sand vetch should, for best results, be sown from the middle to the last of August, sowing same with a light seeding of rye. Under favorable conditions it will then make a good growth in the fall and again the following spring, producing quite an abundance of vegetable matter to be plowed down for fertilizing purposes.

Rape sown after harvest will, under favorable conditions, make quite a rank growth and serve an excellent purpose in fixing the available plant food in the soil and furnishing a cover to the soil over winter. Notwithstanding the fact that rape adds nothing to the soil in the way of fertility which it does not take from it, a crop following a cover crop of rape generally shows the beneficial results of such treatment to a marked degree. It will not, however, add actual plant food to the soil as will the vetch which has the same ability for the trapping of nitrogen as clover or the other legumes.

Sowing Vetch with Self-seeding Rye.

Will you please advise me as to how the following plan will work out with a poor stand of rye? The soil is sandy loam and will produce good corn, but from some cause the rye did not do well. How would it do to let this ten-acre field seed itself then disc well and sow vetch in August or the first week in September, to be cut for hay in May or June of next year? If the plan will work out, should the vetch seed be inoculated, and how much culture should I obtain? How much per acre? Could this field be pastured next spring without injury to the hay crop?

St. Joseph Co.

SUBSCRIBER.

This plan of seeding the field would probably be all right in case the rye is not thick enough to make too heavy a seeding to permit the vetch to make a good growth.

The usual custom is to sow 30 or 40 pounds of vetch seed per acre with a light seeding of rye about the middle of August and under favorable conditions this will make some fall pasture and could be pastured the following spring before cutting the hay crop, but probably not without shortening the hay crop to some extent, as it is impossible to pasture any forage plant and still have it yield as heavy a growth of hay as would otherwise be the case.

Grasses for Permanent Pasture.

Please let me know what is a good combination of grass seeds that gives a good pasture all the growing season. Ottawa Co. J. V.

The grasses which will make the best combination for permanent pasture throughout the season will depend not a little upon the character of the soil upon which they are to be sown. For ordinary or average uplands the mixture of grasses recommended by the best authorities on this subject include Kentucky bluegrass, orchard grass, red-top, meadow fescue and tall oat grass, placing the relative importance of these grasses in the order named. With these should be combined the clovers which are best suited to the soil. In the end Kentucky bluegrass will be found the main dependence

for the permanency of pastures. For lowlands red-top should be given the preference over orchard grass and alsike clover should take the place of common red clover. On sandy lands *Bromus inermis* or Russian brome grass is advised, although it has not been tried out to any considerable extent in Michigan. Factors of quite as much importance in the maintenance of a productive permanent pasture are the methods of handling and fertilizing the pasture. It should not be grazed too closely if the best results are desired and on ordinary soils it will be necessary to give it some fertilization at more or less frequent periods to maintain the most productive pasture.

Cinquefoil.

Enclosed please find portions of the butt and top of a weed I find growing on my farm which I cannot name, as I have never seen anything like it. I think it came in clover seed. Can you give me its name through the columns of the Michigan Farmer?

Lapeer Co.

H. H. G.

The specimen enclosed is commonly known as rough cinquefoil. It is a near relative of another variety of cinquefoil, commonly known as five fingers, and which is more generally distributed, although this weed is quite a pest in many pastures. Cultivation given in the crop rotation, spudding and hoeing will serve to keep same in check.

LILLIE FARMSTEAD NOTES.

I am trying to play the alfalfa game correctly. I have read everything almost that has been said upon this plant, including Joseph Wing's wonderful book on alfalfa, and also Secretary Coburn's, besides talking with men who have made a considerable success with the plant. I have also had some personal experience now for the past four years. The more I study the plant, the more information I get from those who have given the plant a careful study, the more I see that alfalfa has peculiar habits, that we must supply rather unusual conditions. In other words, it is a new crop, that we have all got to learn how to handle in order to get the most out of it. Joseph Wing says, and he probably is one of the best posted men in a practical way on this plant east of the Mississippi, that you must not clip young alfalfa, weeds or no weeds, until the new growth starts out at the crown. If you clip alfalfa before this new growth starts you injure the plant. It may recover from it, but it weakens it. On the other hand, if you wait very long after the new growth starts so that when you clip it you clip off the ends of the new growth, you injure the plant and weaken its vitality. Also, if you let alfalfa grow and don't clip it at all and let the old crops die down and new crops come in as we do sometimes with other crops, this injures the plant. Alfalfa is an exacting plant. You have got to do things right and you have got to do things at the right time in order to get the best results. I seeded 15 acres to alfalfa in May. Had it not been so dry I can believe that I would have had a good cutting this year. It was very dry and the alfalfa started very slowly. I have got a good stand but the plants did not grow as fast as I rather expected they would, because the most of it was on good land. Some of the best plants, however, are a foot high. Some of this was seeded, as I have stated before, with oats as a nurse crop, some with winter rye as a nurse crop, and some without any nurse crop at all. The ground is the most free from weeds, I think, where oats were used as a nurse crop. There are comparatively few weeds where winter rye was sown as a nurse crop, and there are quite a number of weeds, especially in places where no nurse crop was sown at all. Had it been common red clover I should have clipped it long ago and cut off these weeds, some of them have grown up two feet high, but I was following Joseph Wing's advice, not to clip it, weeds or no weeds, until the new growth started at the crown. The new growth has started and so we have clipped the alfalfa. On that portion where oats were used as a nurse crop we have raked up the oats and are feeding them to the cows. On the balance of it, however, we will leave the weeds lying on the ground. It may be that there are so many weeds in some places that it will smother some of the plants, and yet the weeds dry up in the sun and don't do as much damage as one would think.

"Hoed Crops."

The more experience I have with farming, the more I try to handle the hoed crops so that we don't have to hoe them by hand. For instance, with ensilage

corn, if you will put the corn in pretty thick in drills and drag it once before it comes up, and perhaps once afterwards, and get the cultivator going as soon as you can, the corn will get a start sufficiently if it is thick in the rows so that it will shade the rows and smother the weeds close to the row. Those between the rows, of course, we can take care of easily enough with the cultivator. Where, however, there is a vacant space and the corn doesn't come, or perchance it is cultivated up, there we have plenty of weeds because the land is full of weeds, and there is no way to get them out except by hand-hoeing. This year on one field that has received applications of stable manure for a number of years, I planted to lima beans. The canning factory man tells me that lima beans don't want to be too thick, they ought to stand a foot apart in the row. Perhaps I ought not to have put this field into beans because I knew well enough that with a crop like this where the beans stood six inches to a foot apart, it would come up between the rows with weeds, because I knew the land was full of weeds. You take the land that has been covered with stable manure every year or two for the last 25 years and you have got some weed seed in it, and when you give it a half a chance that weed seed will grow. Well, it has grown this year. These summer showers and hot weather have given us a crop of pig weeds or red root, which could be destroyed only by the man with the hoe in actual operation. This field was fitted in good shape, planted to beans, harrowed before the beans came up, and we got to cultivating it early. We had a good stand of beans. The canning factory man said that I had the start of a splendid crop. The beans grew nicely; you couldn't see a weed. But after one of those showers came and hot weather followed the red root started and in a week or ten days you could scarcely see the beans in some portions of the field. Now I have men taking those weeds all out. Some places they have to look to find the beans in the row, but we are chopping the weeds out. The weeds have not been in there long enough, seemingly, to injure the beans. They look just as nice after we get the weeds away from them as they did before; in fact, they have only been shaded a few days by these weeds, the weeds have grown so rapidly. Of course, it costs considerable money to do this, but it is the only thing to do. In fact, if they were not taken out by hand they would actually ruin the bean crop because they grow so rank and so tall that they would shade the ground so that the beans would simply stop growing entirely. These weedy fields, made so by the application of stable manure for years, are rich and will grow good crops if you have a favorable season and can keep the weeds down, but you have always got a job on your hands with the weeds in a hoed crop. When we put these fields to oats or to wheat these crops come up, of course, and smother the weeds so that they do not interfere.

Sugar Beets.

The sugar beets have come on wonderfully well lately. Moisture and good, thorough cultivation, with warm weather, have made them grow. The fore part of the season was cold and dry, and I have a poor stand on a few clay places in the field, while on the largest portion of the field there is a fairly good stand. And seemingly the beets have come on on the clay places so that without going through the field and giving it close inspection you would say that you had a good stand of beets. I have taken out the weeds once after they were thinned. It wasn't very much of a job because we gave them a good hoeing when they were thinned. I have kept the field cultivated and in many places the tops almost touch between the rows now. As a matter of fact, the beets are master of the situation. They have got ahead of the weeds and the ground is so shaded that no weeds will grow. I don't think that I will have to touch these beets again. Perhaps if we have a heavy rain so that a crust will form, I will cultivate them once more, and yet the ground will be so shaded that it will be difficult for a crust to form that will be of any particular detriment to the beets.

SAND OR WINTER VETCH.

We handle in large quantities the highest grade Winter Vetch obtainable. Ask for information and prices. Free sample for testing if desired. Address Alfred J. Brown Seed Co., Grand Rapids, Mich.

Horticulture.

CONTROLLING THE APPLE'S GREATEST ENEMY.

How to tell when to Spray for Second Brood of Codling Moth.

Of all the insects which are injurious to the apple, the codling moth does the greatest damage and in order to make the apple crop a profitable one, both the first and second broods of the codling moth must be killed. Even though the first brood of this moth has been disposed of, the apple crop will suffer very much if the second brood is not killed off. Usually when weather conditions are normal, the second brood hatches out about the first week in August and at this time an arsenical spray may be applied.

Under the usual weather conditions, the time to apply the arsenical in order to kill most of the second brood of the codling moth is the first seven or ten days in August. This will usually get rid of the greater majority of these pests but we should bear in mind that the weather conditions govern the time when the insects are on the wing and as this season has been a rather peculiar one as far as the weather is concerned, it would be well to apply the following test which will tell exactly when is the right time to spray for this much dreaded pest of the apple.

First of all, scrape the loose flakes of bark off from the trunks of several trees in the orchard. This loose bark is more easily scraped off after a wet spell when it has been softened somewhat and comes off with a very little scraping. Now take some old burlap bags or sacks and fasten one on each tree. Each sack should be folded two or three times and then it may be fastened to the tree with finishing nails or it may be tied on. The main reason for fastening the sack to the tree in this manner is to avoid a great amount of pulling and tugging when the cloth is taken from the tree. Now after the larvae of the codling moth have gotten their fill and have devoured enough apple material for their development, they search for a secluded place to spin their cocoons. In the absence of the loose flakes of bark, the bands of burlaps furnish the next best thing under which to spin the cocoons and if the horticulturist will look from time to time, under these strips he will find the tiny cocoons which will soon open up and free the codling moth.

The next thing to do is to make a cage in which to place these cocoons until they hatch. For this purpose, a glass cylinder open at both ends is very convenient and in the absence of such a cylinder, one may use a lamp chimney or a lantern globe. Over each end of the chimney, a piece of mosquito netting should be tied. Now this cage may be placed over a plant jar filled with soil which should be wetted from time to time. The cage should be placed out in the open air, in a shady place which is protected from the rain. The reasons for placing the cage in such a manner are that one should try to have it in as near orchard conditions as possible.

Now that the cocoons have been spun under the burlap and the cage has been made, the next thing to do is to get the cocoons and place them in the cage where they may hatch. This can be done by carefully cutting the cocoons from the bands and in doing this, the small piece of burlap of which the cocoon is spun should be cut out. Now place these small pieces of material on which the tiny creature is quietly resting, in the cage. The cocoons may be gathered in July and one should look for the moth the latter part of this month. Be careful to look under the loose bits of burlap in the bottom of the cage for the moths are often hiding there and are not readily seen.

The codling moth, as it hatches from the cocoon, is a beautiful tiny creature whose fore wings may be rosy or of a pale gray hue with numerous dark specks interspersed throughout the gray. Near the end of the fore wing there is a large brownish spot and upon this spot one may see irregular golden bands. Notwithstanding the fact that this creature is very troublesome to the orchardist, it is very beautiful.

As soon as one finds the moths hatched out in the cage, he may feel certain that they are flying in the orchard and laying their eggs singly on the fruit or on nearby leaves. In about ten days

these eggs will hatch and the young worm will burrow his way into the apple and eat his way into the core, causing the apple to fall prematurely.

Now if the spraying with an arsenical is to be effective against the codling moth, it must be done some time during the ten days after the appearance of the first moth. If the spraying is done more than ten days after the appearance of the first moth, it will be of no avail towards the control of this insect and the result will be a harvest of wormy apples which are no good to keep or sell; hence the grower's profit on the orchard will be very materially lessened if it is not entirely taken away. Since this method of ascertaining the time to spray for the codling moth does not involve a great deal of expense the extra crop of apples will probably repay us for the time and expense we have been put to, in making the test.

Ingham Co.

I. J. MATHEWS.

GRAND RAPIDS FRUIT GROWERS MEET.

The Grand Rapids Fruit Growers' Association held a special meeting July 19, and after hearing crop reports by members from different sections it was voted to send out circulars to Michigan, Indiana and Ohio points to bring the buyers here. In past years this printed prospectus of the crop has been sent out into 10 surrounding states but it was thought that the crop this season would not justify this widespread advertising. Grand Rapids is developing into a great consuming market and will take care of nearly all the peaches grown in this vicinity this year, but there will be a surplus of plums and apples for shipment. Apples will not run over 50 per cent of last year's big yield, Baldwins being especially shy. Duchesses are of fair quality but are in many cases scarred at ends, attributed to frost marks. Grapes promise well. Growers have been getting very good returns on cherries and raspberries marketed in Grand Rapids. President Oscar W. Braman, of Kent, urged co-operation in marketing and pointed out the faults of the present system, or lack of it, when 400 to 600 growers rush their products on the market the same day, glut it and sell for what they can get. It was voted to appoint a publicity committee to keep the consuming public better informed through the newspapers as to when fruit of every kind is in season. Editor Brown, of the Fruit Belt, spoke of Grand Rapids, not only as a great local market but as the natural gateway for the greatest fruit section in the United States and the proper distributing point for this territory. Reports were given of short crops in other states, and it was stated that Michigan will market one of her best money crops this season.

Kent Co.

A. GRIFFEN.

CULTIVATE THE GARDEN.

If vegetables are planted in long rows so that a horse and plow can be used, not only will considerable work be saved, but cultivation will be more thorough. Late crops, as tomatoes, cabbage, and celery will stand the dry weeks of summer much better if the garden has been thoroughly plowed earlier in the season, and the wheel hoe used later. Cultivation by hand is satisfactory for shallow rooted early crops, but the garden that has been plowed with the horse will continue to grow after the shallow worked plat has dried up. The trampling of the crops by the horse may be obviated if the end panels of the garden fence are removable so that the horse may be turned on the outside.

Missouri.

H. F. GRINSTEAD.

KEEP THE FRUIT PICKED UP.

All fallen fruit, whether of any value or not, should be picked up from the ground. Decayed fruit is a breeding ground for disease and insects. Hogs are excellent orchard scavengers, when they can be kept from other crops or from devouring fruit of value. It is some more labor, but just as satisfactory to carry the fruit out to them.

Missouri.

H. F. GRINSTEAD.



RAISE A BIG CROP OF GOOD WHEAT WITH A·A·C FERTILIZERS

WHY be satisfied with 15 or 20 bushels per acre when you can double the crop? Those who use the A. A. C. Co. Fertilizers are harvesting large crops of first quality A-1 wheat, and if you are not yet acquainted with the merits of these Fertilizers it will pay you to investigate them. To ripen large crops of early plump grain requires a large amount of available phosphoric acid derived from the best sources. Our **Banner Dissolved Bone** contains 34% available phos. acid, derived entirely from animal bone. Our **Banner Bone Fertilizer with Potash** has 20% available phos. acid, 4% actual potash, 24% total phos. acid.

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RIGHT PROPORTION OF HEAD TO STRAW

CROP RUNS TO STRAW

Live Stock.

MARKET OUTLOOK.

With the exception of brief periods the fat cattle market has disappointed the trade during the past forty days. The exceptions, however, have been encouraging, demonstrating that the public is still eating beef. Last week we were afforded an example of possibilities, and a diagnosis of June conditions reveals several abnormal causes of depression. While the supply of that month was generous in a numerical sense, the run also carried weight, hanging up considerably more beef in coolers than statistics indicated. Cattle reaching Chicago for several months past have averaged around 100 pounds per head more than during the corresponding period last year, so that the scarcity argument has been temporarily inoperative. To aggravate matters, excessively high temperature curtailed beef consumption all over the country, especially in the east, and disturbed industrial conditions, also repressed demand. We must not overlook the fact that the product is costing the consumer big money and he is always disposed to show resentment by reducing purchases. This is a beef eating country, however, and even semi-abstinence is impossible for any lengthy period.

A feature of the summer trade has been a broad outlet for well finished yearlings, and the supply of little cattle has been decidedly liberal. Compared with heavy bullocks the young steers have found a satisfactory market. For half-fat yearlings buyers have been less keen and growers will do well to learn the lesson that to get maximum results yearlings must be fat.

Quarantine cattle, as Texas bred stuff from below the "tick" line, as known in trade vernacular, have been running somewhat freely during the past 50 days. They have arrived in good flesh and the bulk of them have sold below the 7c line, making lots of cheap beef, and, under the circumstances, the grades of native steers with which they compete have done a very considerable market stunt. Down in the southwest, they are using cotton cake as grass and making their quarantine cattle much better than in former seasons.

Prospects, rather than market history, concern the feeder most, and viewed from that standpoint optimism is warranted. That the entire grass beef producing region west of the Missouri river will market a small crop during the coming season is certain. The Dakotas, Montana and Wyoming picked their herds close last season in response to the incentive of high prices, insuring a light beef round-up in 1913. Northwestern grazers have been compelled to restock in recent years largely with Mexican and other trash, consequently the short run in sight from that quarter will lack quality. An acute beef shortage exists on the Pacific Coast and that quarter will draw more heavily on herds east of the Rocky Mountains. Even from southwestern pastures come reports of a deficiency. Corn-fed cattle have been run heavily and the trade expects only moderate supplies from that quarter during August, September and October, consequently prices ought to work higher unless the public quits eating beef entirely. Hog product is high, no cheap mutton is on the market horizon, and beef will undoubtedly have less competition than last summer and fall. Prediction is always risky, but I am convinced that fat cattle are due to seek higher levels. Each year a high spot in the trade develops and that the pinnacle of 1913 has been recorded nobody versed in market matters believes.

Much has been said and written about beef scarcity. So far this year that commodity has been reasonably plentiful, but how feed lots are to be replenished if the growing corn crop lives up to expectations is worrying many. We have been told that with free trade South America will deluge our markets, but investigation shows this to be an error. In the first place, Argentina, the only surplus producing country in the southern hemisphere, has been getting out of cattle and into grain. Commercial cattle values have advanced 50 per cent at River Plate freezers within a year, and while Australia may throw a little beef into Pacific Coast markets, its influence will never be felt east of the Sierra Ne-

vada Mountains. Argentina could only injure our common cattle even if able to fill Atlantic Coast markets, which the best informed people in that trade say is impossible, and present prices in North and South America for the same grades of cattle show a differential of only about two cents per pound in favor of frozen Argentine beef laid down at New York on a free trade basis. Considering inferiority of the foreign article its popularity will be doubtful unless River Plate prices fall and the trend of cattle values down there is upward.

A world wide cattle scarcity exists and if American consumers are to enjoy anything like an adequate supply of the qualified article the domestic market has afforded for 25 years past, it must be produced within the United States. Written by John T. Alexander, of the Union Stock Yards, and read at the Illinois Cattle Feeders' Convention, July 15, 1913, by Prof. H. W. Mumford.

FEEDERS' PROBLEMS.

Catch Crops for Hog Pasture.

I have about one acre that is in corn; land is in fair condition. Would like to pasture it with hogs next summer. Would it be advisable to sow it about August 10 in the standing corn to winter vetch? Does vetch make good hog pasture? Or would you sow it to June clover at about the same time or sow vetch on early next spring plow it down and sow rape?

Allegan Co.

J. F.

Either of the plans suggested might be profitably carried out in case conditions are favorable at the time and after the seed for the catch crop is sown. Really, however, alfalfa is the very best of the available hog pastures and if conditions are particularly favorable alfalfa might be sown in the standing corn and if a catch is secured makes a better and more productive hog pasture next summer than any of the forage plants suggested since it will make a continuous growth throughout the growing season.

Vetch, on the other hand, would mature rather early in the season unless quite closely pastured and rape would not come on to make as early spring pasture as the other crops suggested. It is however, one of the very best of hog pastures and has the advantage of being easily and cheaply grown. It is impractical to advise any definite course to pursue which would be best, because one does not know what the local weather conditions will be. If there is an abundance of rain, would sow clover or alfalfa in the corn. Otherwise vetch and rye would grow under good, favorable conditions, while in the event of failure with any of these catch crops the rape could be depended upon for spring sowing with reasonable certainty of getting a profitable hog pasture within about six weeks after the seed is sown.

LIVE STOCK NEWS.

The development of the "baby beef" industry is more rapid than most people are aware of, thousands of fat little yearlings tipping the scales at around 700 to 800 pounds reaching the Chicago stock yards in the course of a year. Owners let the calves run with their mothers until ready for slaughtering, and not long since a Missouri farmer marketed in Chicago a consignment of 700-pound Herefords that were last September calves at \$3.80 per 100 pounds.

Horses were in extremely poor general demand last week, as is usual around the Fourth of July, and all that stood in the way of a bad break in prices was the curtailment in receipts, country shippers anticipating a slow trade. Demand centered in a medium-priced class of horses showing harness marks, and more animals went at \$185 to \$250 per head than at any other figures. Quotations for the better class of drafters at \$275 to \$350 were mainly nominal, nor was there much doing in the cheaper class of horses, such as go at \$85 to \$125. A better trade is expected in the near future, but the present time is not usually one of any large activity, and owners should act cautiously.

Nevada has been bringing in a good many cattle from the dry sections of California, where a long drought has been experienced. The indications are that the entire Pacific coast region will have to bring in many cattle for home consumption, and this means the diversion of Montana and Colorado cattle from Chicago and Missouri river markets.

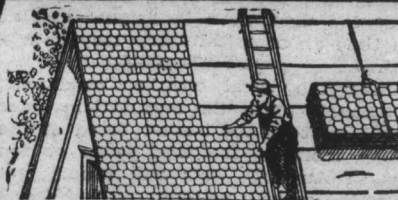
Only moderate supplies of western range cattle are expected to be marketed this year. Ranges were in poor condition last autumn, and owners marketed their cattle very extensively, the high prices ruling proving irresistible.

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Dairy.

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DAIRY NOTES.

Extreme hot weather is hard on dairy cows. We never can get them to do so well. They always shrink, no matter what we are feeding them. It takes considerable energy to overcome extreme hot weather, and the cows seem to use up this energy to overcome the heat. It would be the same, of course, with extreme cold, but in the winter time we can protect them against the cold and keep them comfortable even though the weather is bitter. In the summer, however, this is impossible. There is no way to get cool in the summer time. You have got to simply take off your coat and stand it, and that is the way with the poor cows. Our cows have shrunk more than they ought to during this hot weather, however, owing to the fact that we have no succulent food. We are giving them all the good bright hay they will eat, and also giving them grain, and they have some pasture, in fact, about 50 acres of permanent pasture, but 50 acres of permanent pasture for a herd of 50 cows gets mighty short along about July, especially when we have had a dry spring. So there isn't very much succulency to the pasture grass at the present time, and with no ensilage we feel the effect. One does not notice the effect of the ensilage so much until after he has had it to feed for two or three years and then is deprived of it. Then he can see that a succulent food when the pasture is dry is a wonderful stimulant in keeping up the summer flow of milk. With dairy cows in order to get the very best results it is absolutely necessary to have some form of succulent food as a part of the ration.

It is amusing to read in some of the trade dairy papers their ideas of pasture. For instance, one of the leading New York dairy papers states in an editorial that they have had good showers in the central west which will refresh the pastures and give good feed for the balance of the season, and they look for the output of butter to hold up. Now as a matter of fact, every farmer knows that in the hot weather in the middle of the summer time when pastures are pretty closely fed down, that a good shower of rain, while it does refresh them a little bit, adds but very little to the growth. They don't freshen up like spring and fall in mid-summer, and unless people supplement the pasture by corn silage or some other food they are not going to keep up the flow of milk. In three or four days after a good shower one can walk through the pasture and he would hardly realize that there had been a rain. The heat of the sun evaporates very much of this moisture on pasture ground, it doesn't wet down very much, it doesn't do the grass as much good as the dairy editor seems to think. Of course, a week of wet weather would stimulate the growth of grass, but just a shower, even though it is a good one, seems to have very little effect, except to wash the dust off from the grass and green it up for a day or two. It has no permanent lasting benefit, certainly not sufficient to prolong the milk period. I am speaking, of course, largely of permanent June grass pastures.

WILL A SILO PAY?

Will a silo pay on the farm? Which is the best source of feed for milk cows in the summer, a silo or high land pasture?

Charlevoix Co.

C. H.

For the last twenty years all stock breeders have argued that the silo was made for the dairyman, and there was a doubt about its being profitable for the production of beef or mutton. These late years, however, after experiment stations have made quite exhaustive experiments people have come to the conclusion that the silo will pay for all kinds of live stock. More silos are being put up in the central west today in the feeding districts probably than in the dairy districts in the east. Years of extensive drought have compelled the farmer to take notice of the silo. There isn't any question, but what if a man has live stock to feed, and raises corn, that he can afford to have a silo. As a matter of fact, he cannot afford to not have one. We have always argued that to harvest the corn and put it into the silo was cheaper than to harvest

it in any other way. It can be figured out beyond a reasonable doubt that if you put good corn into a good silo that you needn't lose over five per cent of the food value of the corn plant, while on the other hand, if you dry-cure it you are bound to lose from 25 to 40 per cent, and sometimes with bad weather you will lose even more. No one argues that by putting the ears of corn into the silo adds to their value. As a matter of fact, there is a deterioration, a slight one, in food value in the silo. The ears can be preserved in the old-fashioned way by cribbing, without very much loss, probably no more loss than it would be to put it into the silo, but it must be remembered that the cornstalk and the foliage constitute 40 per cent of the food value of the corn plant. In the old-fashioned way 75 per cent of this is lost in the best available way of taking care of it. Now when the entire corn plant is put into the silo the stalks and leaves are preserved as well as the ear corn, and few people fail to realize that if the stalks are cut when they ought to be and put into the silo, that the food value in the stalks is just as digestible and just as palatable as it is in the ear of corn.

Silo vs. Pasture.

From an economical standpoint no one can afford to pasture good level land. If you have got some waste land on your farm that is not cleared or is too rough to plow, or something of that sort, of course the most practical way of utilizing it is by pasturing. But if it can all be plowed, if it is under a good state of cultivation, you can't afford to pasture it, because when you pasture it very much of the feed is wasted and tramped upon and soiled by the cattle so that it is an absolute waste. You can put this same land into forage crops and keep many more cows or stock of any kind upon the farm than you can if you have the pasture. Of course, here comes in again the question of help. If you can't manage so that you can get help enough to handle when you grow forage crops, so that you can feed the stock, that must be taken into consideration. It is very much easier to let down the bars and let the cows and the other stock into a pasture than it is to harvest crops on that land and take them to the barn and feed them to the cattle. It costs money to do this, but if you can get the labor to do it there isn't any question but what you can make more money than you can to pasture the field.

BUILDING A STAVE SILO INSIDE THE BARN.

What would your opinion be upon putting up a stave silo inside of a barn? I have a stave silo which has blown down several times and a neighbor of mine has one he has put up three times. He thinks he will put his up in his barn this time. Do you think the moisture from the silo will injure the barn?

Genesee Co.

W. M.

I can answer this question in my own opinion, by simply saying, "Don't." Never build a silo inside the barn. The place for a silo is outside the barn. See how expensive it is so far as shelter is concerned, to build a stave silo inside of the barn. It is right in the way. You want the barn room for something else, and there is no use in it. If you build a stave silo outside of the barn where it ought to be, and where it is most convenient, put it on a good solid foundation, use good material for the silo, and good hoops, anchor it well with guy wires, and if you will take hemlock boards, say half an inch thick, bend them around the inside of the staves at the very top of the silo and nail each stave or bolt each stave to this board, there is very little danger of its ever blowing down. Once in a while if the staves shrink very much it is better to tighten up the hoops a little. It would be better in nailing on the boards on the inside of the top of the silo to put on a width of two or three boards, anything to keep the staves from getting out of place, that is the reason they blow down. If you can keep the staves all together, like the staves in a barrel, there is no danger about its falling down, but when they get too loose the wind wracks it. But take my word for it, and never build a stave silo inside of the barn, or any other kind of a silo for that matter.

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GINSENG SEED of 1912 for sale at reasonable rates. A. B. LADD, Rochester, Mich.

Winter Spelt or Emmer—Cleaned and ready to sow at \$1 per bu. f.o.b. here. Bags extra. Yielded 50 bu. per acre this year. 15% protein, takes place of bran in the dairy ration. G. H. REDFIELD, Edwardsburg, Mich.

Poultry and Bees.

POULTRY ON SMALL AREAS.

Many persons do not keep poultry because of the damage done to crops around the buildings. On small places this is a serious matter, for in many instances this loss is greater than the profit from the poultry. A solution that will give an income from both crops and poultry is much desired. There are some methods, including the French, known as the no-yard systems; but they have their objections where large numbers are kept and do not fill the want. One man seems to have solved the problem, for he was able to keep a large number of hens and raise his own stock without occupying much space.

On a lot 100 by 130 feet he had two houses, each 16 by 100 feet, facing the south. These houses were built one on each end of the lot, leaving a space 100 by 100 feet between them. When I saw them in June there were 500 laying hens in one house. This house was divided into pens 10 by 16 feet, each containing 50 hens. In the other house where 800 chicks, from one day old up to twelve weeks. Half of this house was divided into pens, 10 by 16 feet; the other half 16 by 50 feet, was divided by 24-inch wire, one-inch mesh, into small pens so as to keep the young chicks in small lots.

The space between the two houses was divided into two lots, each 50 by 100 feet. In one section was white top clover thick and rank. This patch was furnishing more tender clover tops than the chickens could eat. A lawn mower with a grass-catcher attachment was used to cut all the clover the chickens could eat, twice a day. The other section was planted in rutabagas and would produce enough to furnish green food for the laying hens during the winter.

When range and exercise for the growing stock was mentioned, the owner laughed and said: "The houses are kept thoroughly clean and covered with clean straw in which the chicks are made to scratch for seeds. I force them to work. In August, I select 250 pullets and give them the section now in clover for from four to six weeks. They are then put into the laying-house to replace 250 two-year-old hens that are disposed of. Sometimes when nothing can be destroyed they are let out, but this is only for a few days in September."

This is a 500-hen plant operated on a space of ground 100 by 130 feet. Leghorns are kept for egg production. Every year from 600 to 800 chicks are raised. Some are purchased as day-old chicks and some are hatched. The aim is to raise 250 strong pullets to keep the laying flock up to 500. The two-year-old hens and the surplus pullets are sold at a dollar each. The cockerels go to market when they are 12 weeks old. The eggs are sold to a New York hotel at an advance of ten cents a dozen above market quotation.
New Jersey. C. E. MORRISON.

THE FACTOR OF BREAKAGE IN SHIPPING EGGS.

To reduce the enormous breakage of eggs in transit, which yearly causes a loss of millions of dollars to producers and raises the price of eggs to consumers, the U. S. Department of Agriculture, through its Bureau of Chemistry, has undertaken to determine the safest manner of packing eggs for long and short shipment by rail. The waste from this source, according to the Year Book, in New York City alone in 1909 was over 137,804,768 eggs, or over 11½ million dozens, out of a total consumption in 1909 of 27,689,600 dozens of eggs. In other words, about nine per cent of all eggs received in New York were cracked, and of these a large number were unfit for food.

The Bureau of Chemistry regards this investigation as particularly important because the many millions of dozens of eggs now broken in shipment naturally tend to keep the price of this food higher than if there were no breakage, or breakage were materially reduced. The Bureau, through the Food Research Laboratory, is now engaged in shipping eggs handled in different ways on long journeys to different points in the United States, and is carefully noting their condition on receipt at destination. Ship-

pers, railroad men, and commission men are co-operating with the investigators, since the situation is growing very acute, because the railroads are claiming that their damage losses are such as to make the carrying of eggs an unprofitable commercial proposition.

ITALIANIZING BEES, OR CHANGING THE RACE.

Introducing a queen to a colony composed wholly of young bees is an easy matter, but to introduce one into a colony composed of old bees requires more care. First, seek out the old queen and destroy her, then cage your Italian queen, or queen of your new race. A satisfactory cage may be made by winding a strip of wire cloth, 3½ inches wide and containing 15 or 20 meshes to the inch, about the finger. Let it lap each way one-half an inch, then cut it off. Ravel out the half-inch on each end and weave the ends of the wires, forming a tube the size of the finger. These and similar introducing cages may be purchased of the supply dealers. Put the queen into the cage, being careful not to press her abdomen, and insert cage between two adjacent combs containing honey, each of which will touch it. The queen can thus sip honey as she needs it. If you fear the queen may not be able to slip the honey through the meshes of the wire, dip a clean piece of sponge in honey and insert in the upper end of the cage before you compress the end. This will furnish her with the needed food. In 48 hours again open the hive, after a thorough smoking; also open the cage but let it still remain on the comb. Now keep watch, and if, as the bees enter the cage or as the queen emerges, the bees attack her, secure her immediately and re-cage her for another 48 hours. At times the queen is not well received by the bees and is then balled, as it is termed. By the expression "balling the queen" we mean that the worker bees press about her in a compact form which becomes at times as large as a peach. Here the queen is held until she dies. By smoking the ball or dropping it into water the queen is speedily liberated.

When bees are not storing, especially if robbers are abundant, it is more difficult to succeed. If the queen to be introduced is in a nucleus, you can introduce her safely by taking the frame containing the queen, bees and all, and setting it in the middle of the hive containing the queenless colony, though it is best to smoke them well.

A young queen just emerging from a cell can be safely introduced at once to a colony after first destroying the old queen. You will have to wait a few days before eggs will appear in the cells as she will have to become fertilized first. She may never lay, from different causes, and you will have to keep close watch of hives where virgins like her have been introduced, so as to provide another queen in case the virgin does not become a layer.

Many bee-keepers have colonies that are much better than others and would like to have more of their bees like them. Here is an easy method to accomplish this. At swarming time the hives rear a number of queen cells. Queen cells are usually received with favor, especially if the colony has been queenless for 24 hours. Cut the cells from your good hive and fasten into queenless hive, between the combs, being careful to look over the frames and see that all other queen cells were first destroyed. If they destroy the one you supply, wait 24 hours and supply another. If you wait seven or eight days, and then destroy all their queen cells, they will be sure to accept a cell. But to save time I would always introduce a laying queen.

If you are to introduce an imported or valuable queen, make a new colony, all of young bees. Simply place two frames of fully matured brood in a hive and the queen on them. By nightfall there will be a goodly number of young bees in the cluster with the queen. Unless the day and night are warm they must be set in a warm room and the entrance closed to prevent bees coming out. As the number of bees warrant it, more brood may be added, and by adding brood alone we may soon have a full-sized colony.
Shiawassee Co. N. F. GUTE.

Farm Commerce.

ADVISES THE NOMID PLAN OF SELLING BUTTER.

While we are giving so much time to the proposition of eliminating the middleman and to the discussion of markets and marketing it is well for the dairyman who lives near a large city to look into the prospects of building up a retail butter trade. The dairyman who believes he would like to go into the business of retailing so as to get all the profit himself, should first consider the following questions:

1. Is there a reasonably large market at hand which I can depend upon as being permanent?
2. Have I the necessary transportation and marketing facilities and if not, can I procure them at a cost that will not be prohibitive?
3. Have I the machinery and the knowledge necessary to manufacture a good quality of butter?
4. Can I depend on my dairy herd to supply me with enough to fill regular orders at all times?

If the dairy farmer can meet these requirements, he can build up a steady trade that will bring in a comfortable income every month, providing he exercises good judgment and has a little business ability.

The first point that must be settled is the manufacture of an excellent grade of butter. Remember that there are only two classes of people who would care to bother with a "butter peddler." One is the class of people who would take almost any kind of butter you furnished, provided you sold it cheaper than they could buy butter elsewhere. These people would not make a dependable or profitable class of patrons. The other class are those who will pay any reasonable price you ask providing your butter is always of a top-notch quality. Those are the ones you want for your customers. They will seldom ask credit and will stick to you as long as you deliver satisfactory butter.

Getting started is not an easy matter and requires patience. About the only way to secure your "select" customers is to take a number of samples of your butter with you and make a canvas of the homes in the best part of the city until you secure enough customers to start. Then, if you provide a good butter at a reasonable price, your trade will grow without much further effort on your part to secure more customers. A satisfied patron will get customers for you better than you can.

Give your butter a suitable name. Choose a name that will reflect some particular merit or feature of your butter that you wish to make your strongest advertisement. "Cream Nuggets" expresses the idea. See that the name is simple and easy to remember. You want customers to speak well of your butter so give it a name that they will remember easily.

The creak method of packing butter for retail is gradually giving away to the one-pound and two-pound cartons. The cartons are more satisfactory in every way. Arrange with a good printer to furnish a supply of wrappers. Have him show you samples of labels and then give him an idea for an original, simple, and attractive design that you will use for your own. The printer will help you in this matter. Be sure to select a satisfactory label in the start for you don't want to be changing labels after you have built up a trade. This is the day of the fad that the "label must tell" and people are being impressed more than ever with attractive labels. Do not have the printing on the wrapper too flashy or too plain for either of these extremes conveys the impression of cheapness.

Aim to make a good impression right in the start. Patrons will overlook a lot after you have been serving them several months. They will be mighty finicky at first. The first few weeks will either clinch or lose their trade. Clinch it, even if you don't make much of a profit.

In the start it is well to stick to the one product. Put your whole efforts to making the best butter you know how, and selling it. Be careful in feeding, to guard against any bad flavor in the butter. Watch that the cream is clean and not too ripe so that the butter will not

become rancid too soon. Strive always to make a butter of uniform quality and excellence that will hold your trade. One bad churning may destroy the good results of many months of hard work. Make your motto, "The best—and always the same."

After the butter business has settled down to a permanent paying basis, it is often possible to add to the income by furnishing your customers with sweet cream, milk, skim-milk, or even vegetables and other farm products, especially eggs. This will come unsolicited; and it is better so. Stick to the one product you have chosen as your stock in trade and let the other products be merely side-lines.

Now is a good time to consider building up a retail trade for the parcel post may soon be able to make all your deliveries for you, in which event you can supply customers everywhere at a trifling expense.

California.

L. L. DEBRA.

THE NORTH LANSING MARKET A SUCCESS.

North Lansing decided not to be outdone by the bigger part of the Capitol City and already a thriving market is being conducted on Turner street. The Lansing market is now in process of construction, but the people of the north side believed that "a bird in the hand was worth two in a bush," and have already proven that a city market is a sane and sensible way of bringing the consumer and the producer nearer together.

The growers of fruit and produce begin to back their wagons up to the curb about six o'clock in the morning and by six-thirty many purchasers are seen wending their way along the street, laden with a spacious market basket and an acquisitive demeanor. The street cars bring many buyers from Lansing and the opportunity of purchasing nice fresh provisions combined with the novelty of the new method of business serves to draw many customers from their usual haunts of trade. Large automobiles stand by the curb and frequently the whole family go out for an early morning spin and make a short stop to inspect the market and lay in a good stock of fresh fruit and vegetables.

The prices at the different wagons seem about the same and in some instances they are as high as the neighboring stores, but the best part of the whole business is the fact that the citizen can buy his fruit and vegetables fresh from the farm. The provisions are hauled in during the cool hours of the morning and they are sold and in the refrigerator of the ultimate consumer long before the heat of the day. There is no opportunity for the fruit and vegetables to become covered with dust as when they are exposed on the display stands at the grocery store and then hauled all over the city in a hot dusty wagon.

Black raspberries were selling one morning last week at 15 cents per quart on the market. The grocery stores in the city were selling black raspberries at the same price and it may seem a poor saving to make a trip to the market when the same provisions could be ordered over the phone. The market, however, had the advantage by a big margin for the farmers' berries were firm, clean, and fresh picked the previous day. Many of the berries on the stands at the stores showed a certain per cent of half-ripe fruit and the appearance of the boxes was often sunken and mushy, showing that they had been considerably shaken up during transportation.

A big bunch of nice fresh lettuce that would completely fill an ordinary market basket was purchased for five cents and for ten cents we bought a large bunch of well grown beets that would make sufficient greens for an average sized family. These prices were certainly as low and probably lower than any store on the main street when we consider the size and quality of the purchase. Everything was clean and fresh and still showed the tinge of that refreshing greenness that gives a man the fruit and vegetable appetite, which never comes from constant observation of a heap of wilted leaves which are specked with dust and baked in the noonday sun.

The women of the city enjoy doing their own marketing and if we disregard

the money saved, there is certainly some value in giving the housewife a chance to leave the hot kitchen in the cool morning hours and sharpen her wits by bartering with the tillers of the soil. The farmers are appreciating the advantages of the market and ever since the opening day there has been a gradual increase in the number of wagons lined up along the curb. One farmer was heard to remark, "If I had known last spring that this market was to be opened, I should have put in a much larger acreage of vegetables and next year I am going to be a truck gardener and show the people around here that we can raise the finest lot of vegetables in the state." That farmer has a couple of boys just big enough to help with the garden crops and assist with the sales on the curb. It should be an excellent stimulation for their business instincts and make them more interested in farm life than as if their only experiences in that line consisted entirely of exercises at the end of a hoe handle.

It seems that the market should be the solution to the cost of high living in the small town as well as in the city and it seems that the markets are a partial success at least in the cities or their operations would not be continued. We cannot blame the railroads for raking in our money, when we allow the neighboring farmers to ship their produce to the commission man in a large city like Chicago. The commission man ships it back to the grocery store around the corner and we go down and cheerfully pay our tribute to the transportation company which has been perambulating around the country with our bread and butter at so much per mile.

The North Lansing market is being appreciated by the people all over the city and it seems that any town, regardless of its size, is making a great municipal error if it does not at least try out the market proposition and give the citizens a fair opportunity to find out the benefits of buying direct from the producer. The farmer will also appreciate the chance to receive a fair compensation for his work in the field and his money is going to be spent in the town that gives him the best market for his products.

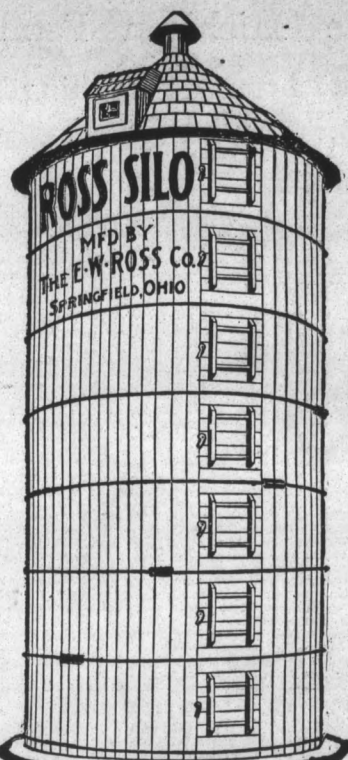
At the present time, the farmers are not thoroughly accustomed to the new methods of dealing and prices are somewhat higher than they will be when competition and better organization of the market give both the producer and the consumer a better understanding of its functions. The general interest in the project is shown by the fact that the buyer must get there early or go home empty handed, as nearly all of the farmers have been able to clean out their wagons in a few hours. The automobile trade has been good and many machines stand by the curb while the owners wander along inspecting the provisions in the wagons. It is no unusual sight to see an automobile leave with the back seat filled with dish pans full of currants and gooseberries. It only shows that the canning season has arrived and the people appreciate the opportunity to get nice fresh fruit at a slight reduction from the price demanded in the store.

On the opening day there were only seven farmers present but the rapidity of their sales has led many others to undertake the business and the success of the North Lansing market and the broader field that will open with the new Lansing market is leading many farmers to plan on putting in a large acreage of vegetables and small fruits. There is certainly a chance for a big boom in the market gardening business and it should mean an excellent profit for the farmers that get into the game early.

The members of the North Lansing Commercial Club take considerable pride in their new market and are studying out plans that will enable the business to be carried out with the greatest efficiency. The best way for the farmers and merchants to avoid knocking any spokes from the wheels of progress is to study out practical methods of co-operation. When the business men and the farmers combine to work for the mutual good of a town it results in bigger business and a more prosperous community. The city market at North Lansing is proving a success and the plan is worth trying out in every town where the high cost of living and the "cost of high living" are responsible for much worrying among the citizens. It is a boost to the agricultural interests of the community and gives the people more for their money than they can receive after hiring several middlemen to help place the provisions within their reach.

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DETROIT, AUGUST 2, 1913.

CURRENT COMMENT.

With the return from Europe of the American commission to investigate agricultural credit in Europe, interest in this proposition will undoubtedly be renewed throughout the United States. A letter issued by the commission throws no new light on the matter of co-operative credit other than to mention the development of personal credit organizations along co-operative lines. With regard to co-operative selling this letter contains the following paragraph:

"The organizations for production and distribution of farm products follow co-operative lines. Farm products are sold by the producer at a relatively higher price and are bought by the consumer at a relatively lower price because the cost of distribution is considerably lowered by co-operative marketing."

Next to better facilities for the utilization of credit to provide a larger working capital, the farmers of the country, and Michigan, need better marketing facilities which will bring to them a larger proportion of the consumer's dollar as seems to have been affected by co-operative selling organizations in Europe. This phase of the commission's work and report will prove equally interesting with that dealing purely with the co-operative credit organizations and will be awaited with interest by very many thinking farmers.

The parcel post law passed by the last Congress contains an administrative provision empowering the Postmaster General to change from time to time, subject to the consent of the Interstate Commerce Commission, the classification of articles, mailable under the law, "as well as the weight limit, the rates of postage, zone or zones, and other conditions of mailability if, in his experience, he shall find that they or any of them are such as to prevent the shipment of articles desirable."

Under the authority granted by this clause, Postmaster General Burleson has announced the decision of changing the parcel post regulation as to the size of the packages available, as well as a reduction of postage rates to take effect on August 15. He has, in accordance with the provisions of the law, secured the consent of the Interstate Commerce Commission to these changes.

Following this announcement comes the the Senate a joint resolution providing for the repeal of this administrative clause in the parcel post law. Naturally the railroads and express companies are using their influence to bring about such legislation, as any increase in the usefulness of parcel post would mean a loss to them. It is probable, however, that the real issue in Congress, or the influences which will bring support to such a measure, is the fact that that body is jealous of its power. It wants to make the rates, fix the zones, etc.

As heretofore noted, this provision of the law which permits the Postmaster

General to make such changes in the regulations as experience denotes to be desirable, is the one feature which made the present parcel post law really worth while. Its limitations as enacted are such as to make it of only minimum value to those who have been most active in seeking the passage of such a law. Its utility to country people would be greatly enhanced by enlarging its scope for practical operation as the proposed changes by the Postmaster General would in a measure do.

The repeal of the clause granting administrative power to the Postmaster General would make the future development of parcel post problematical and uncertain. Every interested reader would do well to advise his senators and representative in the national Congress of his attitude on this question. Undoubtedly the people of the country will not look kindly upon any attempt to curtail the development of this public utility until it affords them a service commensurate with that which is enjoyed by the citizens of most other countries at the present time. But to advise members of the two Houses of Congress of that fact at the present time may hasten the day when an adequate parcel post service will be enjoyed in the United States.

The Peddler Nuisance.

Time was when the transient peddler and his wiles were well known in most country communities. Fortunately, with improved facilities for trading, this class of tradesmen, so many of whom were fakery, have practically disappeared, at least to the extent that they are no longer recognized as a public nuisance. This fact, however, makes it easier for an occasional one to dupe unsuspecting and honest country people.

One such is reported as operating in the southwestern part of Michigan. Upon occasion, and when other methods failed, this surviving specimen of his kind would inquire for someone in the neighborhood who had a farm to sell, then would represent that he had a purchaser for a farm whom he could bring the following day, if upon looking the farm over he found it would suit requirements, securing his lodging and breakfast in this manner. He would then undertake to sell his wares, sometimes succeeding, upon the representation that he was asking no commission for getting a buyer for the farm. Of course, the buyer never came.

In all such cases those imposed upon should notify the authorities to the end that the country may be well rid of this class of impostors.

DISHONESTY SHUNS SUNLIGHT.

Dishonesty thrives under cover; the man who is honest has no fear of the light of day.

This is true in business. The manufacturer who identifies his product with his firm, by putting a name or a mark upon it and advertising it to the world, can usually be depended upon to give full value.

For he has more at stake than the buyer; his reputation and his future business depend upon delivering satisfaction. If he fails but once, he will be shunned by the buyer forever, as his name is known.

It is well to keep yourself informed concerning all those who come out into the light of day and advertise their goods in the Michigan Farmer.

HAPPENINGS OF THE WEEK.

National.

A strike at the Upper Peninsula copper mines involving some 20,000 miners assumed such serious proportions that the entire body of the state militia was called out and is now at the scene of the disturbance. Through the Western Federation of Miners, which claims a membership of something like half of the striking mine workers, they have demanded an eight-hour day, a higher wage scale, the abolition of the one-man drilling device, and the improvement of miners' conditions, which it is claimed would only put the Michigan copper industry on the same basis as that of the west. The calling out of the state troops was the result of attacks made upon miners who attempted to work, and also upon deputies who were undertaking to protect life and property. Since the arrival of the state troops there has been no further disturbance of note but the mine officials have not shown a disposition to recognize the union and there is considerable apprehension as to the outcome.

In a fire which destroyed the plant of the Binghamton Clothing Company, of Binghamton, N. Y., some 35 girls lost their lives, the larger portion being so charred in the ruins that identification was impossible. Steps are being taken for

an investigation of the disaster with a view to preventing such losses of life in the future. After a similarly disastrous fire in 1911 laws were passed providing for a rigid investigation of factories and more adequate fire escapes. The state labor department, which is under Tammany control, is censured by many who are familiar with the circumstances, for laxity in the enforcement of the laws. Others censure the legislature for inadequacy of the laws.

Dr. H. F. Asbury, a member of the lower branch of the West Virginia Legislature, has been found guilty by a jury of having accepted a bribe for his vote in the recent contest for the election of the United States senator. This is the third conviction of seven charges against members of the legislative body.

Railroad officials joined last week in the fight in the Senate to prevent Postmaster General Burleson from making proposed increases in the size of parcel post packages transported through the mails and reducing rates on August 15. The representatives of the railroads claim that this would mean a loss to them of \$15,000,000 to \$20,000,000 a year on business which the government would take from the express companies under these proposed changes, and the plea was made that if these changes were inaugurated the railroads should be given some compensation for this extra amount of mail which they would be obliged to carry.

John Collins, 89 years old, the first white child born in Farmington township, Oakland county, is reported as dying of paralysis.

The American commission on agricultural co-operation returned from its European trip late last week. Certain members of the commission announced that a wealth of information has been obtained which will enable the preparation and submission of a report of its findings before the end of the present year. Thirty-six states and four provinces of Canada were included in the personnel of the commission, aside from the seven members appointed by the President. A letter has been prepared outlining the work of the commissioners in Europe, which will be sent to the governors of the states represented, and to farmers' organizations and agricultural institutions throughout the country. Co-operation among farmers, credit systems and the organization of rural life in European countries have been made the particular subjects of study. The commission states that it found the prevailing rate of interest paid by the farmers for short time loans from four to five and one-half per cent on terms generally better than those available to American farmers. One class of credit organizations supplies such loans and another long time loans on land mortgages. The commission will report on October 27, to the Southern Commercial Congress, which originated the idea of the investigation, at its session in Mobile. The federal commission will report to Congress.

According to a report made public by Chairman Rice of the Michigan prison board of pardons, who has been making a personal investigation into the subject of criminality, the use of liquor is the chief cause of crime in this state. He also maintains that the greatest percentage of criminals come from the uneducated class and that our present system of education will necessarily decrease the amount of crime in future generations. The prisoners possessing a liberal education are usually in prison because of forgery.

Foreign.

The Mexican situation continues to occupy the attention of the government but no definite announcement has yet been made of the policy which will be pursued in the present crisis except to indicate that no arms or ammunition will be allowed to go from this country into Mexico to either the government or rebels of Mexico. The plan of recognizing the government, which would be the choice of the Mexican people in an election, which has heretofore been favored, may be impossible, not only on account of the attitude of the Mexicans, but as well because of the difficulty of insuring a fair election in case that plan was made acceptable. Ambassador Wilson is now at Washington and important developments are expected after his conference with the President and further consideration of the problem by the cabinet.

Direct wireless communication between America and Asia has been established between the U. S. Signal Corps station at Nome, Alaska, and the Russian station at Anadyr in Siberia.

Turkish troops have invaded Bulgarian territory and burned several villages along the route taken. No declaration of war has been made, however, Turkey having apparently trusted to the jealousy of the powers to prevent European interference. Disagreements among the allies who were winners in the recent contest are still unsettled.

Augusta B. Leguia, former president of Peru, and his son, were sent to the penitentiary last week following a riot during which six persons were wounded by shots from the ex-president's residence following a threatened attack on the house by a crowd. The affair has caused a sensation and it is predicted that it will bring about a ministerial crisis.

Militant suffragettes continue to conduct demonstrations in London which frequently end in riots in defiance of the authorities. Last Sunday the ambitious object of these leaders was an attack on the residence of Premier Asquith, which was, however, blocked by the mounted police.

Rebels in the south of China suffered defeat and the capture of two important forts on the Yang-tse river in the Kiangse province. Late dispatches state that an armistice has been arranged to permit negotiations between leaders of the rebel and government forces.

CROP AND MARKET NOTES.

Livingston Co., July 23.—Haying and harvesting is nearly completed. Hay was secured in excellent condition, the weather being very favorable for haying but extremely dry for growing crops. It has been so dry that new seedlings have been practically ruined. Wheat has nearly all been secured, and the crop is fair and of a good quality. Pastures are very short, owing to the dry weather. Corn and beans have made a good growth in spite of the dry weather. Oats will be a fair crop but the straw will be short. Fruit is not very plentiful, with the exception of plums and peaches.

Mecosta Co., July 25.—General run of crops looking quite good. Hay much lighter crop than last year; crop mostly secured in good order. Less acreage of potatoes, and considerable more of beans than last year. Corn looking good, and acreage about the same as last year.

Newaygo Co., July 24.—July opened with two weeks of hot weather, but since then has been fine weather, with very cool nights. Potatoes and corn needing rain badly. Early potatoes are almost a total failure on account of the drought through June. Hay mostly all put up. Rye and wheat all cut. Oats are poor and a short crop. Potato bugs are a full crop and are worse than they have been for years. Raspberries are a light yield, but if we get rain blackberries will be full. Eggs, 17c; butter, 23c; chickens, 11c.

Southern Hillsdale Co., July 21.—The spring continued wet so long that many farmers here were quite discouraged, but later the season has been very favorable and now crops generally are as good as this season of the year as they have been in the past 30 years. Wheat, rye and barley are all a good crop. Oats, while not as tall as usual, are filling well. Hay was a very good crop, much better than it seemed possible 30 days ago, and corn is looking unusually good.

Lapeer Co., July 17.—Thunder showers last night caught much hay out, but will be of great benefit to all growing crops as it was getting very dry. Hay and oats will be a better crop than was expected a month ago. Rains the latter part of June and the Fourth of July helped them wonderfully. Cherries and plums were a good crop but the hard wind of last Saturday and Sunday blew many off. About all cherries not picked were blown off. Wheat harvest beginning.

Ohio.

Hancock Co., July 28.—Weather very warm, with frequent showers. Wheat and rye about all threshed; wheat yielding about 20 bu. per acre; rye not so good; corn growing very rapidly, and prospects are for a large crop. Early potatoes will not be a very large crop; late potatoes a very poor stand on account of the June drought in this section. A great deal of the little clover was hurt by the dry weather. Farmers are contemplating having a large crop of clover seed. All live stock is scarce and high; hogs selling around \$9.50 per cwt; wheat, 81c; corn, 86c per cwt; oats, 37c per bu; rye, 53c; barley, 45c; butter, 20c; eggs, 14c; old chickens, 12c; spring chickens, 18c per lb.

Knox Co., July 26.—Farmers mostly through making hay and stacking wheat; hay crop rather light; wheat good; oats rather short and ready to harvest. Live stock doing well generally, but some hog cholera reported. Fat hogs about 9c; beef cattle 7c. Good draft horses \$175@225. Spring chickens 18c.

New York.

Orleans Co., July 21.—Orleans county is passing through a severe drought. We have had no rain to speak of since about June 1. Late planted corn is suffering on this account and also on account of cold nights. Early planted corn looks fairly good. Hay, wheat, barley and oats are good. Hay is nearly harvested and in good shape, selling from \$5@10 from the field. Beans are looking well, considering the weather. On hard land they are suffering some. Potatoes are looking good. Early crops need rain. Tomatoes, of which a large acreage is planted, are looking good. Berries of all kinds are a light crop and prices ruled high. Apples will not be over half a crop. Baldwins are very light. Pears are the heaviest crop in years. Peaches a heavy crop and large acreage. Plums are a light crop. Quinces very light.

Niagara Co., July 23.—Continued hot weather. Picnics thrive and city guests arrive. Hay is not yet all harvested and wheat and rye are suffering to be cut. Berries are fast drying up and selling as follows: Black caps at 6@7c; per qt.; red raspberries, 12@12½c. Crops seem a little late on account of long cold spell in the spring. Cherries selling for 3c per lb., not much demand and crop is very abundant. Beans look good; corn is coming but not very high yet. Old hay field are giving poor returns and young fields are doing fine. Clover is great. Wheat this year seems above the average and hay below. Hay is selling at \$10@12 a ton; beans \$2 per bu; corn and oats \$34 per ton; bran, \$24; middlings, \$27.

Genesee Co., July 26.—We had very cold and dry weather in the spring. This was followed by wet and cold. Later very hot and dry. Splendid for getting work done, but not good for growing crops. Hay quite a good crop. Wheat good; oats promise to be a fair crop. Most fields of potatoes good. Corn and beans backward in growth. Apples below a normal crop. Factory peas a bumper crop, netting at factory \$50 to \$154 per acre. Fruit and other crops damaged to quite an extent by wind and hail; all kinds of live stock very high. Farms changing hands very little. Prospective buyers awaiting the results of tariff reform. Following are the prices offered

(Continued on page 97)

Grange.

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

THE AUGUST PROGRAMS.

State Lecturer's Suggestions for First Meeting.

Song, "The Grange is Marching On."
Roll-call of officers responded to by each contributing a one-minute entertainment feature.

Breakfast, dinner and supper for threshers, by three women and three men. A choice quotation.

Good rules for better crops. Discussion.

Music by orchestra.

The present tariff situation from the Grange standpoint.

Quartet, "Keep politics off your farm," No. 144, Grange Melodies.

"Making home attractive." Discussion.

Suggestions for Second Meeting.

Song, "Farewell to Summer," No. 132, Grange Melodies.

Why does it pay to attend Grange in summer? by four members.

Recitation, "A toast to laughter."

Can a city man go to a farm in your neighborhood with \$1,000 and make good? How?

Character song.

A farm girl of 18, with a common school education, wants to go to city to earn more spending money but father and mother object: 1. What advice would you give girl? 2. What would you do if you were girl's father? 3. What would you do if you were girl's mother? Question box.

The Grange Ginger Jar, opened by a "Surprise committee."

Music by orchestra.

AMONG THE LIVE GRANGES.

Live Topics are the rule with Olivet Grange, of Eaton county, one of the progressive subordinates that is having good programs throughout the vacation period. At one of the July meetings Mrs. Jessie Church gave a reading on "J. W. McAdoo, Secretary of the Treasury," the high light of President Wilson's cabinet. Mrs. N. D. Lamphar gave a short sketch of the work of Miss Virginia Brooks in reforming Hammond, a suburb of Chicago. Mrs. Joseph Willis gave a reading on Charles Pool, the New Zealand reformer, showing that these islands in the South Pacific ocean, through Mr. Pool's efforts, are far ahead of many other nations. Mrs. L. B. Taggart's account of her recent four weeks' visit with friends in New York, Connecticut and New Hampshire was another of the extremely interesting numbers on the program. A general discussion on bean raising emphasized several points: Bean raising is hard on the land; it is a ticklish crop, as so much depends on the season to secure success; on the whole, year in and year out, corn pays just as well.

Fifteenth Annual Picnic.—Gilead Grange of Branch county, will hold its annual picnic on Thursday, August 14, at Gilead lake. This event is a very popular one in that section, the Grange having held a picnic each year for the past 15 years. A gradual increase in attendance and popularity has been noted from year to year, inciting Gilead patrons to greater efforts each succeeding year.

That Five-County Rally.—The date that has been selected for the big rally of Granges from five counties, to be held at Traverse City, is Wednesday, August 27. The affair will really be conducted by Grand Traverse Pomona Grange, but patrons and farmers generally from all surrounding counties are cordially invited to participate. State Master Ketcham and Dr. Eben Mumford, state leader of federal extension work for Michigan, will be the chief speakers.

Co-operating with Farm Bureau.—In Cass county the Grange is co-operating with the county farm bureau in awakening farmers to the importance of the work which the county farm expert is trying to do. With a view to pressing home the need of an expert in each county, a meeting was recently held at La Grange, Cass county, under the auspices of the local Grange, the meeting being the first of a series for creating sentiment favorable to securing a farm expert for that county. The meeting was addressed by Hon. Jason Woodman, farm expert for Kalamazoo county, who, in the course of his remarks, said: The farms of Cass county or any other county in the United States are not being worked to produce anything like their average capacity. There is too much waste on every farm, and that which is worked is not made to yield what it should. I don't believe a farmer in Cass county gets a full yield of potatoes. It isn't the fault of the farm, but the fault of the farmer. The potato field should receive more attention than the vineyard.

COMING EVENTS.

Picnics and Rallies.

Kent county annual picnic at John Ball park, Grand Rapids, Wednesday, Aug. 13.

Pomona Meetings.

Shiawassee Co., with Venice Grange, at Venice Grange hall, Friday, Aug. 1.
Ingham Co., with Aurelius Grange, Wednesday, Aug. 20. Picnic programs and baseball game.

Farmers' Clubs

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

Associational Motto:

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

Associational Sentiment:

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

CLUB DISCUSSIONS.

Will Hold August Picnic.—The Pittsford Farmers' Club met at the pleasant farm home of Mr. and Mrs. Orville Pratt July 16; on account of the busy time on the farms very few of the gentlemen were present, but after a bountiful dinner the Club was called to order by President Robt. Cousins, and a fine temperance program was listened to with interest. Select readings, recitations, special music, also songs by the Club from our new song books, which we have purchased since my last report to the Michigan Farmer. Many thanks to all who so kindly answered my request for something good in Club song books. Our annual Club picnic we voted to hold on our regular Club day, the third Wednesday in August, at Mallory Lake, with a short program, sports, ice cream, picnic dinner and social time, special features of the day.

Children's Day.—The Annual Children's Day program of the Hadley and Elba Farmers' Club was interesting and well rendered. A goodly number were present and the rain only served to increase the merriment and good cheer of the day. Mr. and Mrs. McDougall are fine entertainers and merit much praise for their untiring efforts in providing pleasure for their guests. The July meeting at the Hadley town hall was not largely attended, owing to a misunderstanding about the date. Short historical sketches of the U. S. flag and Michigan were given by the Misses Blanch Snook and Retta Johnson. The next meeting will be held August 21 in connection with the Lapeer Farmers' Picnic at Neppessing Lake.—Mrs. C. P. Johnson, Cor. Sec.

Discuss Co-operative Selling.—Since our last report Peach Grove Farmers' Club has held two meetings and attended a picnic with The Experiment Association of North Grand Rapids. On June 21 the meeting was held at the home of your correspondent, with about 70 persons present to enjoy a very good program of music and reading. The subject for discussion was "Co-operative Selling." One speaker said he had had some experience in the co-operative plan of selling milk and did not much favor the plan. The others to talk seemed to think that the time is near when most, if not all, marketing will be done in that way. The work of an association at Fenville, organized two or three years ago, was cited as an argument in favor of the proposition. Also the idea that the growers who organized and began to work at once to build up a trade would have the advantage over those who delayed, as buyers who once began to deal with the company would go there next year for their fruit or potatoes, or whatever the people had to sell. On July 4 a joint picnic was held with the North Grand Rapids Experiment Association in Richardson's Grove on the bank of Grand River. About 250 were present. Foot races, nail driving contest and a ball game were some of the things that helped to enliven the meeting. July 19 we met at the home of Mr. and Mrs. L. Brown, and spent the evening in singing and an old-time spelling match. Some of the older ones could out-spell the younger ones, those of present-day teaching force and high school graduates. We have a notion that more practice along that line of school work would be a very great improvement.—M. G. Finch, Cor. Sec.

Interesting the Young People.—The Salem Farmers' Club held its June meeting at the pleasant farm home of Mr. and Mrs. Sylvester Atchinson. The attendance was good, including visitors from Wixom and Howell Clubs. After a bountiful dinner President Thompson called the Club to order. Mr. Gage, of Wixom, who had driven from that place in his auto, then gave the Club a good all-round talk—said he would speak offhand but might have to stop and "crank up." He reminded us of the things that make a strong government. Religious, mental and social faithfulness. He spoke on the subject of the Japanese in California, and the new alien law. He referred to Col. Roosevelt as having vindicated himself in regard to the liquor habit, but thought a man who has occupied the position before the public which Mr. Roosevelt has, should be able to say, "I am a total abstainer from all that intoxicates." He thought neighboring Clubs should often visit each other and learn their methods. Mrs. Brown, of the Howell Club, spoke of getting the young people interested in Club work. She said they were doing it very successfully in their Club. They have frequent question drawers and give the young folks work to do and questions to answer. Club adjourned with music.—H. C. T., Reporter.

HOG FEED CHEAP. ASK BARTLETT CO., JACKSON, MICH.

FOR SALE OR TRADE

(What you got.) Registered Percheron Stallion, black, 17½ hands high, weighs 1800 lbs. This horse is sound, good style and a colt getter. No use for him. He will make you good money. Come quick. J. C. BUTLER, Portland, Michigan. Bell Phone.

WANT TO BUY Registered Holstein heifer calves of good breeding. W. H. H. WERTZ, Wooster, Ohio.

BREEDERS' DIRECTORY.

CATTLE.

Aberdeen-Angus.

Herd, consisting of Trojan Erica, Blackbirds and Prides, only, is headed by Egerton W. the GRAND CHAMPION bull at the State, West Michigan and Bay City Fairs of 1912 and the sire of winners at these Fairs and at THE INTERNATIONAL, Chicago, of 1912. WOODCOTE STOCK FARM, Ionia, Mich.

AN OPPORTUNITY CHOICE GRADE GUERNSEYS FOR SALE.

To make room for registered stock will sell 15 young High Grade Guernsey Cows and 3 Heifer Calves. Average return for butter fat from creamery \$60 each cow for six months, December to June. All bred to registered sire. Commence freshen September. Price put on each animal and no change made. Change rarely offered to reap the benefit of nine years careful weeding and breeding. Inspection invited at Windermere Farm, Watervliet, Mich. For further particulars address J. K. BLATCHFORD, Auditorium, Tower, Chicago, Ill.

Guernsey Bull Calf—Rich in A. R. breeding. A Gee Dandy. G. A. WIGENT, Watervliet, Mich.

GUERNSEYS—Reg. Tuberculin Tested. Windermere Farm, Watervliet, Mich. J. K. BLATCHFORD, Auditorium Tower, Chicago, Ill.

I have 2 Reg. Guernsey bulls left. Ready for service, the very best breeding, cheap if taken soon. Guarantee satisfaction. John Ebbels, R. 10, Holland, Mich.

HEREFORD BULLS FOR SALE Also Poland Allen Bros., Paw Paw, Michigan.

CHOICE Bull Calves from A. R. O. dams. Sired by our herd sire whose dam and sire's dam each made over 30 lbs. in 7 days. E. R. Cornell, Howell, Mich.

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

HOLSTEIN BULLS—well bred, at reasonable prices. Barred Rock Chickens from 15 years breeding. Good layers eggs 15 for \$1. W. B. Jones, Oak Grove, Mich.

"Top-Notch" Holsteins.

Choice bull calves from 6 to 10 mo. old, of fashionable breeding and from dams with official milk and butter records for sale at reasonable prices. McPHERSON FARMS CO., Howell, Michigan.

Purebred Registered **HOLSTEIN CATTLE**
The Greatest Dairy Breed
Send for FREE Illustrated Booklets
Holstein-Friesian, Assoc., Box 164, Brattleboro, Vt.

Bigelow's Holstein Farms

Breedsville, Mich.

Have for sale several fine young bulls out of cows with high official butter and milk records.

Send for circular.

WANTED 10 HOLSTEINS.

Registered heifers between age of 12 and 20 mo. C. E. WINTERS, Cressey, Michigan.

DISPERSION SALE

Over 40 head Registered Holstein cows & heifers of choicest breeding. Describe what you want or come and see them. C. D. WOODBURY, Lansing, Mich.

REGISTERED HOLSTEINS. "Some Crickets have but two legs, four legs, while others have but two." Some knockers have two legs, while others have but one. Hobart W. Fay, Mason, Mich.

Young Holstein Bull—Pedigreed. From good stock. Having no use for him will sell cheap. For information inquire, Dr. Geo. W. Dunphy, Park Dale Farm, Rochester, Mich.

FOR SALE—On Cornwell Farm, Clare, Michigan. Holstein new milch cows. Also good Dairyman wanted. Enquire of ERNEST PIETZ.

For Sale—2-yr.-old Jersey Bull—Dam's 5-yr.-old record 10551 lbs. milk, 513 lbs. fat, 604 lbs. butter. Sires dam's record—12997 lbs. milk, 600 lbs. fat, 706 lbs. butter. 2-yr.-old full sister's record—8610 lbs. milk, 435 lbs. fat, 513 lbs. butter. All authenticated, kind sound, sure. Waterman & Waterman, Ann Arbor, Mich.

Lillie Farmstead Jerseys

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

BUTTER BRED JERSEY BULLS

CRYSTAL SPRING STOCK FARM, Silver Creek, Allegan County, Michigan.

For Sale—4 Reg. Holstein cows bred to Sir Korndyke Pietertje Hengerveld, No. 55929. Also 2 bull calves and 3 heifers. E. A. BLACK, R. 6, Lakeview, Mich.

For Sale—Registered Jersey Cattle, tuberculin tested: bulls and bull calves; heifer and heifer calves; cows with Register of Merit and Cow Testing Association records. IRVIN FOX, Allegan, Mich.

Notten Farm, Grass Lake, Mich. A few young Jersey bulls, 1½ to 2½ years old, bred by Jubilee of Sylvan 56¼% the blood of Jubilee of Boisd'Aro.

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

RED POLLED COWS AND HEIFERS—For sale, of good milking strains. John Berner & Son, Grand Ledge, Mich. Route 4.

DAIRY BRED SHORTHORNS—Bates bred bull 1-mo. old for sale. Price \$100. J. B. HUMMEL, Mason, Michigan.

SHORTHORN CATTLE—A few yearling and 2-year-old heifers for sale. Also Shropshire rams and ewes. M. A. BRAY, Okemos, Mich.

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

SHEEP.

IT PAYS TO BUY PURE BRED SHEEP OF PARSONS. "the sheep man of the east." I sell and ship everywhere and pay express charges. I will start one man in each twp. Write for club offer and descriptive price list. Shropshires, Rambouillet, Polled-Delaines and **PARSONS OXFORDS.** R. I. Grand Ledge, Michigan.

Leicesters—Yearling and ram lambs from Champion flock of Thumb of Mich. Also select Berk shire swine. Elmhurst Stock Farm, Almont, Mich.

The Ingleside Farm is offering more and better Shropshire Sheep than ever before. All stock recorded. Write us what you want. HERBERT E. POWELL, Ionia, Mich. Citizen's Phone.

Reg. Rambouillet Sheep, Pure Bred Poland China HOGS and PERCHERON HORSES. 2¼ miles E. Morrice, on G. T. R. R. and M. U. R. J. Q. A. OOK.

SHROPSHIRE & DUROCS KOPE-KON FARM, Kinderhook, Michigan.

HOGS.

Durocs & Victorias—A Desirable Bunch of Sows of Either Breed due April and May. M. T. Story, R. R. 48 Lowell, Mich. City Phone 55.

BERKSHIRE—boar pigs from fine thoroughbred stock FOR SALE. With or without registry papers. Big value for the price. Write for information to D. F. Valentine, Temperance, Mich.

A Yearling Sow—bred for July farrowing, also a choice lot of Spring Pigs for sale. Either sex. A. A. PATTULLO, R. No. 1, Deckerville, Mich.

O. I. C.—Big growthy type, last fall gilts and this spring farrow to offer. Very good stock. Scott No. 1 head of herd. Farm ½ mile west of depot. OTTO B. SCHULZE, Nashville, Mich.

O. I. C's—A FEW BRED SOWS FOR SEPTEMBER FARROW. GEO. P. ANDREWS, Dansville, Ingham Co., Mich.

O. I. C's—all sold. Orders booked for April and May pigs of the choicest breeding. C. J. THOMPSON, Rockford, Michigan

O. I. C's—Bred sows, March pigs pairs and trios. Buff Rock Eggs \$150 per 15. FRED NICKEL R. 1, Monroe, Michigan.

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

THIS



O. I. C.

SOW WEIGHED 932 LBS. AT 23 MONTHS OLD

IONIA GIRL

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

O. I. C's—We make a specialty of O. I. C. hogs on our farm. Stock all registered in O. I. C. Ass'n. J. R. WAY, Pompeii, Mich.

O. I. C. SWINE—I am offering 200-lb. gilts, bred, due to farrow the latter part of August and fore part of September. All who are interested write me. A. J. GORDON, R. No. 2, Dorris, Mich.

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

Duroc Jerseys—Gilts all sold. Spring pigs of the large and heavy boned type. Pairs not akin. Satisfaction guaranteed. F. J. DRÖDT, R. No. 1, Monroe, Mich.

Duroc Jerseys For Sale—Three fall boars, also spring pigs, either sex; of finest breeding and individual quality. John McNicoll, Station A, R. 4, Bay City Mich.

Duroc Jerseys—Nothing But Spring Pigs For Sale. CAREY U. EDMONDS, Hastings, Michigan.

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

LARGE STYLED POLAND CHINA SPRING PIGS. L. Sows bred for fall farrow, also Shorthorn Bull calves at close prices. Robert Neve, Pierson, Mich.

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

P. C. MARCH AND APRIL PIGS—The long bodied kind. Guaranteed to please. R. W. MILLS, Salline, Michigan

LARGE TYPE P. C. FALL PIGS all sold. Have the greatest bunch of spring pigs I ever raised. Eight sows farrowed 86. Come or write. Expenses paid if not satisfied. Free livery from Parma. W. E. Livingston, Parma, Mich.

P. C. BOARS AND SOWS—large type, sired by Expansion. A. A. WOOD & SON, Salline, Michigan.

350 BIG TYPE MULE FOOT HOGS—All ages for sale. Prolific and hardy. Best bred for Michigan. Also Ponies. J. DUNLAP, Box M, Williamsport, Ohio

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

YORKSHIRE Swine—We have some nice spring pigs now ready for sale. Write for description and prices. OSTRANDER BROS, Morley, Mich.

Lillie Farmstead YORKSHIRES

Spring bred gilts all sold. Gilts bred for next August farrow. September pigs either sex, pairs and trios not akin. Orders booked for spring pigs. COLON C. LILLIE, Coopersville, Mich

When writing to advertisers please mention The Michigan Farmer.

Markets.

GRAINS AND SEEDS.

July 30, 1913.

Wheat.—Little interest was shown on the wheat market on Tuesday, owing to the absorbing interest in the corn deal. Large primary receipts with increasing stocks and a lull in the export demand have tended to make a bearish market without, however, any reduction in values. Weather conditions in the northwest are generally favorable for finishing the crop and it will be only a short time before new spring wheat will be on the market. One year ago No. 2 red wheat closed in this market at \$1.05½ per bu. Quotations for the week are:

	No. 2	No. 1	Dec.
Thursday	88½	88½	89½
Friday	88	88	88½
Saturday	88	88	88½
Monday	88	88	88½
Tuesday	88½	88½	89½
Wednesday	88	88	88½

Chicago, (July 29).—No. 2 red, 87½c; Sept., 86½c; Dec., 90½c per bu.

Corn.—This market advanced sharply on Monday and Tuesday owing to unfavorable weather reports from the southwest. Intense heat with complete lack of moisture is reported throughout the corn belt and the corn crop is said to be in bad shape. In Kansas the crop is reported to be the poorest, with two exceptions, since 1890. Experts have reduced their estimates of the season's yield from 300,000,000 bu. to 500,000,000 below previous estimates. No. 3 corn sold on this market one year ago at 76½c per bu. Quotations for the week are:

	No. 3	No. 3
	Corn.	Yellow.
Thursday	64	66
Friday	63½	65½
Saturday	64	66
Monday	64½	67
Tuesday	65½	67½
Wednesday	66	68

Chicago, (July 29).—July, 65½c; Sept., 65½c; Dec., 62½c per bu.

Oats.—This market, though active and strong, did not keep pace with corn, the apparent reason being an unusual aggregate of sales from the northwest where favorable weather is bringing the crop along rapidly toward maturity. One year ago standard oats sold on this market at 60½c per bu. Quotations for the week are as follows:

	Standard.	No. 3
		White.
Thursday	43	42
Friday	43	42
Saturday	43	42
Monday	43	42
Tuesday	43½	42½
Wednesday	43½	42½

Chicago, (July 29).—July, 40½c; Sept., 41½c; Dec., 43½c per bu. asked.

Beans.—Market inactive with nominal quotations 5c lower than last week. Recent showers are favoring the development of the growing crop. Prices for immediate, prompt and August shipment \$1.95; October, \$1.85 bid at country points.

Chicago, (July 29).—Market unchanged from last week's quotations. Pea beans, hand-picked, choice, \$2@2.05 per bu; red kidneys, \$1.75@1.90 per bu.

Rye.—This market is unchanged with cash No. 2 quoted at 64c per bu.

Barley.—This market is practically unchanged with outside quotations a point higher at Chicago, where the market has a range of 48@63c per bu.

Clover Seed.—There has been a decline in the price of prime seed during the last week, trading being almost completely in futures with October and December selling at \$8.25; October alsike, \$10 bid and \$10.25 asked. At Toledo December clover seed sold at \$8.30 and December alsike at \$10.25 per bu.

Timothy Seed.—Market unchanged from last week with prime seed selling at \$2.50 per bu.

FLOUR AND FEEDS.

Flour.—Jobbing lots in ½ paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent, \$5.70; second, \$5.20; straight, \$5; spring patent, \$5.10; rye flour, \$4.60 per bbl.

Feed.—In 100-lb. sacks, jobbing lots: Bran, \$23; coarse middlings, \$23; fine middlings, \$26; cracked corn and coarse corn meal, \$26; corn and oat chop, \$24 per ton.

Hay.—Prices up again 50c@1 on all grades. Carlots on the track at Detroit are: No. 1 timothy, \$15.50@16; No. 2, \$12.50@13.50; light mixed, \$14@14.50; No. 1 mixed, \$11.50@12.50.

Chicago.—Old hay quoted \$2 per ton higher. Choice timothy, \$18@18.50 per ton; No. 1, \$16.50@17.50; No. 2, \$15@16; No. 3 and clover mixed, \$11@14; clover, \$8.50@12.50; alfalfa, \$14.50@17.50.

Straw.—Detroit.—Rye, \$9@10; wheat and oat straw, \$8@8.50 per ton.

Chicago.—Rye straw, \$8@9; oat straw, \$5.50@6; wheat straw, \$5.50@6 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—Steadiness characterizes the market at all points. Elgin remains unchanged. Locally the demand continues satisfactory. Extra creamery, 26c; firsts 24½c; dairy, 20c; packing stock, 19c.

Elgin.—Market steady at 26c.

Chicago.—This market is featureless, supplies running near normal and other conditions showing no change of consequence. Quotations are: Extra creamery, 26½c; extra firsts, 25@25½c; firsts, 24@24½c; seconds, 23@23½c; dairy ex-

tras, 25c; firsts, 23½c; seconds, 22c; packing stock, 12@21c as to quality.

New York.—Market fairly steady, although last week's figures are being shaded somewhat on most grades. Quotations are: Creamery extras, 26@26½c; firsts, 25@25½c; seconds, 23½@24½c; state dairy, finest, 25½@26c; good to prime, \$24@25c; common to fair, 22@23c; packing, 19@21½c as to quality.

Eggs.—The trend of the market generally is slightly in an upward direction since receipts are approaching the low point of the year. Local quotations are up ¼c from last week. Current offerings candled, quoted at 17½c per dozen.

Chicago.—Nearly all qualities are somewhat higher, the better grades gaining ½c or more. Miscellaneous receipts, cases included, are quoted at 10@15c; do cases returned, 9@14½c; ordinary firsts, 15½@16c; firsts, 17½@18c; extra, 20@21c per dozen.

New York.—Market firm; choice western stock showing an upward tendency. Fresh gathered extras, 24@26c; western gathered whites, 20@26c per dozen.

Poultry.—Receipts of poultry at all points are heavy for the season. Locally broilers have been in great supply and as a result they are quoted 5c lower than at this time last week. Hens are also quoted lower, while ducks and geese are higher. Quotations are: Live.—Broilers, 18c; hens, 15½@16c; No. 2 hens, 12@13c; old roosters, 11@12c; turkeys, 17@18c; geese, 12@13c; ducks, 15@16c per lb.

Chicago.—Spring chickens are again lower; no other changes of consequence. Quotations on live are: Turkeys, good weight, 18c; others, 12c; fowls, good, 15c; spring chickens, 18c; ducks, 13c; geese, 10c; guinea hens, \$4 per dozen.

Cheese.—Steady. Wholesale lots, Michigan flats, 14½@14¾c; New York flats, 15½@16c; brick cream, 14½@15c; limburger, 14½@15½c.

Veal.—Little doing; quotations largely nominal. Fancy, 13½@14c; common, 10@11c.

FRUITS AND VEGETABLES.

Apples.—The range on new apples is widening as the fruit becomes more plentiful. Now being quoted at \$1.50@2 per box, and \$4.50@5 per bbl.

Huckleberries.—Quoted at \$4@4.50 per bushel.

Gooseberries.—Not plentiful at \$2.50@3 per bushel.

Currents.—Higher. Ordinary, \$2.50@2.75 per 24-qt. case.

Raspberries.—The red kind are more plentiful and somewhat lower; blacks unchanged. Reds, \$4.50@5 per bu; black, \$2@2.25 per 16-qt. case.

Blackberries.—Selling at \$2@2.25 per 16-qt. case.

Cherries.—About gone. Quoted at \$3.50@3.75 per bu.

Potatoes.—Little change from last week. Southern white quoted at \$2.75@3 per bu.

Cabbage.—New selling at \$2.50@2.75 per bbl.

WOOL.

Boston.—Greater activity is noted in the domestic wool market with prices holding steady. Buying of the new clip is active in the west. Light trading is reported in fleece wools. Ohio half-bloods selling at 24c, with other grades at proportionate prices.

GRAND RAPIDS.

A total of 295 loads of produce were reported on the city market Tuesday morning, including 75 loads of fruit, and prices were as follows: Red raspberries, \$2@2.75 per crate; black raspberries, \$2; blackberries, \$1.25@1.50; currants, \$1@1.25; gooseberries, \$1; Duchess apples, 80c@1.25. New potatoes brought 50c@1; hay, \$14@16. Dressed hogs are worth 10½@11c; live fowls, 13c. New No. 2 red wheat is bringing 81c at the mills; oats, 40c; corn, 67c; beans, \$1.60.

THE LIVE STOCK MARKETS.

Buffalo.

July 28, 1913.

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

Receipts here today: Hogs, 65 cars; sheep, 22 cars; cattle, 205 cars.

With 205 cars of cattle on our market here today the market on all heavy cattle of 1200 lbs. and upward was fully 15c per cwt. lower than last Monday, although the heavy steers today were not so good quality as last week. All butcher grades were fully 25c per cwt lower than last week.

We quote as follows: Best 1350 to 1450-lb. steers, \$8.60@8.85; best 1200 to 1300-lb. do., \$8.25@8.65; best 1100 to 1200-lb. do., \$8.25@8.50; coarse and plain heavy steers, \$7.50@7.75; choice handy steers, \$8@8.50; grassy 1000 to 1100, \$7.50@7.75; do. 800 to 1000, \$7.25@7.50; best fat cows, \$6.50@7; best grassy cows, \$5.75@6; good do., \$5.25@5.50; light do., \$4.75@5.25; trimmers, \$3.50@3.75; best fat heifers, \$7.50@8; medium grassy, \$6.75@7.25; common, \$6@6.50; best feeding steers \$7.25@7.50; light common stockers, \$5.75@6.25; best butcher bulls, \$6.50@7; best bologna bulls, \$5.75@6.50; stock bulls, \$5@5.50; milkers and springers, best, \$7@8.50 per head; common to good, \$5.50@6.50.

Receipts of hogs today, 65 double decks and mark but little changed from Saturday's close. General sales of the mixed, medium and heavy were at \$9.85, some ordinary heavy ends down around \$9.50@9.60; yorkers, \$9.85@9.90; pigs and lights \$9.90@9.95; roughs, \$8@8.50; stags, \$7.50@8.

The sheep and lamb market was fairly active today; with 22 cars on sale and about the same as the close of last week; most of the choice lambs selling from \$7.75@8; yearlings, \$6.50@7; look for

about steady prices the balance of the week.

We quote: Choice lambs, \$7.75@8.25; cull to fair, \$6@7.50; yearlings, \$6.50@7; bucks, \$3@3.25; wethers, \$5.50@6; handy ewes, \$4.50@5; heavy do., \$3.75@4; cull sheep, \$2.50@3.50; veals, choice to extra, \$11@11.50; fair to good, \$9.50@10.50; heavy calves, \$5.50@7.

Chicago.

July 28, 1913.

Received today 18,000 46,000 25,000
Same day last year, 20,928 44,830 22,529
Received last week, 46,273 126,894 91,339
Same week last year, 30,853 111,115 106,236

The week opens with a moderate cattle supply, but while the better class sell readily at former prices, other kinds are slow and weak, with numerous grassy lots not wanted. Hogs of the best light class are selling all right at unchanged values, but other kinds of swine are 5@10c lower and not particularly active. Hogs marketed last week averaged 246 lbs., compared with 243 lbs. a week earlier, 240 lbs. one year ago, 237 lbs. two years ago, 245 lbs. three years ago and 227 lbs. four years ago. The sheep and lambs received included a good percentage from Idaho and Washington ranges. Sheep and yearlings were fairly active at about steady prices, but lambs moved off slowly, and at a late hour not many had been sold. Some choice lambs sold early at \$7.50, while a sale of prime selected lambs was made at \$8.

Cattle that were desirable in quality sold all right last week, there being no excessive offerings, but killers were rather exacting in making their selections and drew the line firmly against grassy and other inferior cattle, having found that they dress out unsatisfactorily. The bulk of the beef steers offered found buyers at \$7.90@8.90, with the best class of heavy beefs going at \$8.90@9.20, the top price being 5c higher than any sales made recently. The commoner class of light, grassy steers brought \$7.25@8, while warmed-up steers sold at \$8.05@8.25, medium lots at \$8.30@8.50 and good cattle at \$8.55@8.85. For common to prime little yearling steers buyers paid \$7.80@9, while butchering lots of cows and heifers went at \$4.90@8.65, cutters at \$4.30@4.85, canners at \$3.45@4.25 and bulls at \$5.35@5.75, ordinary females and bulls sharing in the decline noted in steers not of the better class. Little was done in stockers and feeders, demand being light, and the greater part of these cattle sold at declining figures. Stock steers sold at \$5.50@7.60 and feeders at \$7@7.90, with stock and feeder heifers scarce and wanted at \$5.50@6.65. There was the accustomed good demand for veal calves, prices ruling extremely high, as the receipts were only moderate in volume. Calves sold all the way from \$5@7.50 for the heavier weights up to \$10@11.50 for the desirable class of light vealers. Milk and springers sold sparingly at \$50@85 per head. Prospects are much better for fat beefs than for grassy lots, for the latter are unpopular with packers and smaller butchers, while the former are getting scarcer all the time, but it is probable that before long a good many thin grass-fed cattle will be purchased at comparatively low prices for feeders. The close of the week saw the best calves sell at \$11, while steers averaged \$10@15c lower than a week earlier, the best excepted, and the general run of female cattle, except the better class, sold 25@40c lower.

Hogs sell off on some days as a matter of course after advances, but the market remains in good shape, and the supplies offered are all greatly needed for the requirements of the fresh meat and provision trade. The principal change in features is the increasing proportion of corn-fed and grassy sows now showing up, this being of yearly occurrence, and causing a marked widening out in hog quotations. These offerings, while needed for manufacturing lard, have to go at bottom prices, while the best prices are obtained for prime light and butcher weights adapted for the eastern shipping trade. Of course, every man who is fortunate enough to own some hogs fully realizes their great value, and those who have sufficient feed are not going to let the swine go to market before being well matured, for the ruling prices are almost unprecedentedly high, being enormously above the figures of recent years. Even pigs of good weights are selling extremely high, although not so close to matured hogs as a few weeks ago. Monday last week saw the best hogs sell at \$9.62½ in one instance, the highest point yet reached. At the week's close hogs sold at \$8.55@9.50, while stags brought \$9.30@9.60, boars \$4@5, pigs \$7.40@9.25 and throwout packing sows \$8@8.50.

Lambs and sheep displayed the usual features last week, with frequent large fluctuations in prices, depending upon the size of the receipts and the general demand. Prices broke sharply on Monday under receipts of 31,498 head, but rallied sharply later in the week under greatly lessened receipts and a good demand. Much of the irregularity in the receipts arose from the uneven shipments from Louisville to packers direct. Idaho furnished the principal part of the range lambs, while Montana and Oregon shipped in fair numbers of range wethers and yearlings, including some feeders. The demand for feeders was especially strong, and good prices were paid. Idaho sent in some good bunches of ewes, and a good many native ewes were offered. At the close of the week most sheep were 15@25c higher than a week earlier and lambs 35@50c higher. Lambs were salable at \$5.50@8.25, yearlings at \$4.75@6.75, wethers at \$3.50@5.40, ewes at \$2.50@5, bucks at \$3@4 and feeding lambs at \$6.40@6.90. The week's receipts ran far short compared with the previous week and a year ago.

Horses were in fair demand last week

for this season of the year, with good team horses weighing from 1,400 to 1,550 lbs. wanted at \$250@285 per head. Inferior animals were slow of sale around \$85@125, and prime heavy drafters were scarce and largely nominal at \$300@350, while livery pairs were in restricted demand at \$250@350. A large share of the horses sold singly at \$185@250.

LIVE STOCK NEWS.

Daniel Adamson, of Nebraska, had two carloads of steers and spayed heifers on the Omaha market recently, and received \$7.90 for the steers and \$7.60 for the heifers, both lots going to a feeder buyer. He said cattle shipments from the western Nebraska grass country this year will probably be later than usual. The range is in pretty fair condition, but it is beginning to dry up in spots. Fortunately, however, a dry spell would not mean liquidation this year. A shortage of cattle exists, and there will be more than enough feed to fatten even a normal crop of cattle. A condition that will make this shortage more noticeable at market than in the country appears in the unusual number of range contracts. More contracts are being made on the range this year than ever before, Mr. Adamson thought.

The course of the sheep market has been so erratic in recent weeks that sheepmen could never tell when making shipments to market whether they would make good profits or suffer big losses. At such a time it is always best to get the advice of a leading live stock commission firm as to the best time for sending in stock.

The recent course of the hog market has demonstrated the soundness of the reasoning of leading packers and others several months ago, when they showed that on the strength of the swine shortage and the large requirements of the trade, both hogs and provisions were bound to sell much higher. Where hogs will finally land there is no telling, but low prices look a long way off, and every owner of thrifty young hogs should do his best to finish them off in first-class shape.

The demand for stocker and feeder cattle of late has fallen off, farmers being too busily engaged in haying and harvesting to pay attention to restocking their pastures. Such demand as has prevailed has run largely on the lighter weights, and choice stock steers are especially favored, selling nearly as high as heavy feeders.

CROP AND MARKET NOTES.

(Continued from page 96).

by dealers, not the retail prices: Butter, dairy, 26c; creamery, 29c; pork, dressed, 11½c; live, 8½c; eggs, 24c; spring chickens, 18c; fowls, 15c; lambs, dressed, 14c; wheat, \$1; oats, 45c; beans, pea, \$2; beans, medium, \$2.10; beans, red kidneys \$1.90; beans, red marrow, \$2.15; hay, loose, \$10@12.

Pennsylvania.

Columbia Co., July 28.—Eastern New York is having an off year. The cool backward spring, with killing frosts in May, played havoc with the ruit. Most all berries were killed and the apple crop will be short. Pear trees are badly blighted. Dry weather has cut pastures, hay and oats, below the average. Early potatoes are scarcely half a crop and corn is in need of rain. Potatoes are \$1 per bu; butter, 30c; eggs, 30c.

Indiana.

Davies Co., July 21.—Exceedingly dry weather prevails. Oats and hay made about a half crop. Early garden stuffs failed; wheat good; corn not promising. Corn, 70c; wheat, 90c; hay, \$21; oats, 35c; potatoes, \$1.60 per bu; butter, 30c; eggs, 16c; blackberries, 40c per gal; apples, crop failure; peaches half crop; wheat threshing in full blast; good yield and quality reported.

Erie Co., July 24.—With the exception of strawberries the fruit crop has been above the average. From northeast an average of 500 bu. a day has been shipped for the last three weeks and the average price received is about \$3 a bu. This has meant an income of about \$1,500 a day to the fruit growers of this district, according to Mr. Woods of the express company, who has a record of every bushel shipped. The above figures do not include the fruit marketed retail at Erie and other near-by towns. The grape crop in the Chautauqua and Lake Erie grape belt, however, will not be more than 60 per cent of normal yields. The crop of 1912 in this district amounted to a total of 7,600 cars having a value of \$2,000,000. In no place is there a report of more than 60 per cent of a full crop. With the increased freight charges which go into effect this year, the selling price must be considerably higher, for much of a profit to be realized. Other crops are looking good, especially hay, which is selling for about \$10 a ton. At North East a total of 1,500,000 cans of pears were preserved, this crop being good. Potatoes and cabbage, as well as corn are making rapid growth.

Missouri.

Polk Co., July 24.—The season has been very dry. Practically no hay crop, and corn has been cut half by long drouth and if no rain soon will be almost total failure. All grass seed sown in spring a loss. Cattle and stock hogs dull, but fat stock selling well at or near market price. Corn is worth 68c; hay \$15 per ton; wheat, 75c. It is too dry to plow for wheat, and unless there is a decided change in the weather the crop put in will be small. The yield this year was better than an average, about 20 bu. per acre. Eggs are 9c; butter, 20c. Pastures have been poor since April, and are now dried up and too short to furnish feed. All stock being fed.

THIS IS THE FIRST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

July 24, 1913.

Cattle.

Receipts, 1577. Market 10@15c lower than last week, and very dull.

We quote: Best dry-fed steers and heifers, \$8@8.15; steers and heifers, 1000 to 1200, \$7.75@8; do. 800 to 1000, \$7.50@8; grass steers and heifers that are fat, 800 to 1000, \$7.50@8; do. 500 to 700, \$6@6.50; choice fat cows, \$6; good do., \$5.50@5.75; common do., \$4.50@4.75; canners, \$3.50@4; choice heavy bulls, \$6.50@6.75; fair to good bolognas, bulls, \$5.75@6.25; stock bulls, \$5@5.50; choice feeding steers, 800 to 1000, \$6.50@7; fair do., 800 to 1000, \$6@6.50; choice stockers, 500 to 700, \$6@6.50; fair do., 500 to 700, \$6@6.25; stock heifers, \$5@6; milkers, large, young, medium age, \$6@7.50; common do. \$3.50@5.

Roe Com. Co. sold Hammond, S. & Co. 1 bull weighing 1470 at \$6.75, 1 do weighing 700 at \$5.30, 1 do weighing 600 at \$5.50, 3 do av 1147 at \$6.50; to Sullivan P. Co. 5 steers av 1008 at \$7.50, 2 do av 1105 at \$6, 9 butchers av 525 at \$5.75; to Kamman B. Co. 9 do av 712 at \$6.50, 2 do av 565 at \$6.50, 7 do av 873 at \$7.10, 4 cows av 930 at \$5; to Bray 8 bulls av 526 at \$5.25, 1 do weighing 870 at \$6, 2 cows av 1115 at \$6, 4 do av 852 at \$4, 1 do weighing 920 at \$4, 1 do weighing 700 at \$3; to Breitenbeck 7 cows av 937 at \$4.50; to Parker, W. & Co. 1 bull weighing 1010 at \$6; to Rattkowsky 2 cows av 1065 at \$4.75; to Johnson 3 stockers av 627 at \$6.40; to Grant 2 butchers av 440 at \$5, 1 do weighing 750 at \$5.50; to Mich. B. Co. 3 bulls av 907 at \$6, 3 do av 507 at \$5.25; to Johnson 1 steer weighing 660 at \$6; to Wyness 2 bulls av 750 at \$5.75, 2 heifers av 860 at \$6.75; to Newton B. Co. 1 cow weighing 830 at \$5, 3 do av 1100 at \$5.25, 1 bull weighing 1240 at \$6.75, 1 do weighing 1050 at \$6.25, 4 steers av 800 at \$7, 3 cows av 1117 at \$5, 1 canner weighing 790 at \$3.50, 8 cows av 1064 at \$5, 8 steers av 932 at \$7; to Hammond, S. & Co. 2 cows av 875 at \$3.60.

Haley & M. sold Grant 8 cows av 890 at \$5.30; to Mason B. Co. 2 steers av 675 at \$6.50, 1 cow weighing 830 at \$3.75, 14 butchers av 567 at \$6.25, 8 cows av 881 at \$6; to Sullivan P. Co. 2 bulls av 715 at \$5.25, 1 do weighing 1460 at \$5.75; to Johnson 10 stockers av 590 at \$6.25; to Goose 3 do av 633 at \$5.70; to Breitenbeck 1 bull weighing 850 at \$6, 7 cows av 904 at \$5, 6 butchers av 755 at \$6.15; to Mich. B. Co. 2 bulls av 510 at \$5.50, 3 do av 920 at \$6, 5 do av 940 at \$6.25; to Sullivan P. Co. 4 heifers av 795 at \$5.90, 1 cow weighing 950 at \$4; to Bray 2 heifers av 540 at \$6; to Rattkowsky 4 cows av 1015 at \$5.75, 5 do av 1004 at \$5.75; to Goose 3 heifers av 483 at \$6.05; to Mason B. Co. 4 butchers av 715 at \$6.65, 7 do av 730 at \$6.05.

Bishop, B. & H. sold Sullivan P. Co. 4 butchers av 767 at \$5.50, 7 do av 886 at \$7, 2 cows av 1000 at \$5.50, 4 do av 840 at \$5, 13 do av 877 at \$5.50, 2 bulls av 1010 at \$6.50, 1 do weighing 1330 at \$6.50, 1 canner weighing 680 at \$3.50, 10 butchers av 665 at \$6, 7 do av 721 at \$6.25, 9 cows av 980 at \$5.65, 4 steers av 1262 at \$7.75, 4 do av 1082 at \$6, 3 cows av 933 at \$5.75, 1 bull weighing 1030 at \$6.25, 2 heifers av 625 at \$5.25; to Kull 4 steers av 942 at \$7.75, 2 do av 650 at \$6.50, 14 do av 975 at \$7.35, 6 do av 828 at \$6.80, 10 butchers av 732 at \$5.75, 1 cow weighing 670 at \$4.50; to Mason B. Co. 23 butchers av 826 at \$6.90, 2 cows av 985 at \$4.50, 1 bull weighing 980 at \$6.50; to Hammond, S. & Co. 6 cows av 1075 at \$5.75, 4 cows av 960 at \$4.50, 4 bulls av 532 at \$6, 5 cows av 832 at \$4.50; to Bresnahan 2 canners av 980 at \$4, 1 do weighing 940 at \$3.75; to Kamman B. Co. 2 steers av 785 at \$7; to Bray 2 oxen av 1340 at \$6.75, 2 heifers av 535 at \$5.50, 2 do av 760 at \$6.50.

Spicer & R. sold Hammond, S. & Co. 3 bulls av 1020 at \$6.50, 2 do av 730 at \$5.75, 4 do av 990 at \$6.40, 4 do av 682 at \$5.75; to Baldwin 14 stockers av 380 at \$5.55; to Ward 1 canner weighing 870 at \$4.40, 1 do weighing 740 at \$4; to Cliff 22 stockers av 490 at \$6, 22 do av 470 at \$6; to Sullivan P. Co. 3 steers av 717 at \$6.50, 5 cows av 1012 at \$5.35, 1 do weighing 740 at \$3.75, 7 butchers av 707 at \$6.10, 6 cows av 1033 at \$5.75; to Applebaum 2 do av 955 at \$5.25; to Johnson 2 stockers av 650 at \$6; to Grant 2 heifers av 780 at \$5.75; to Bresnahan 7 do av 613 at \$6; to Ward 2 cows av 620 at \$4, 1 do weighing 850 at \$4, 2 do av 1040 at \$5; to Thompson Bros. 1 cow weighing 810 at \$3.50, 4 do av 855 at \$6.25; to Rattkowsky 7 do av 1070 at \$5.50; to Goose 1 do weighing 1040 at \$4.25; to Sullivan P. Co. 4 steers av 907 at \$7.25, 1 do weighing 900 at \$6, 16 butchers av 777 at \$6.25, 3 do av 583 at \$5, 4 bulls av 1191 at \$6.35, 1 do weighing 590 at \$5.50; to Johnson 2 steers av 670 at \$6.25; to Michigan B. Co. 1 steer weighing 1000 at \$7, 2 cows av 1185 at \$6, 3 heifers av 643 at \$6.25, 5 cows av 1100 at \$6; to Marx 6 steers av 895 at \$7.

Milk Cows.

Bishop, B. & H. sold Bresnahan 1 cow at \$70, 1 do at \$75, 2 cows and one calf at \$110, 1 cow and calf at \$75, 2 cows and 2 calves at \$110, 2 cows and one calf at \$110, 1 cow and calf at \$65, 1 cow and calf at \$60, 3 cows and 2 calves at \$215, 2 cows and 1 calf at \$108.

Haley & M. sold same 1 cow at \$67.50,

1 cow and calf at \$75, 2 cows and 2 calves at \$100, 2 cows and 2 calves at \$115, 3 cows at \$165, 2 do at \$135, 2 cows and 2 calves at \$147, 2 cows at \$115, 1 cow and 1 calf at \$75, 1 cow at \$57.50. Bishop, B. & H. sold Converse 4 cows and 2 calves at \$266.

Haley & M. sold Rosshelm 1 cow and calf at \$65.

Veal Calves.

Receipts, 858. Heavy grades dull; others steady. Best, \$10@11; others, \$7@9.50.

Roe Com. Co. sold Newton B. Co. 5 av 250 at \$5, 3 av 130 at \$8, 2 av 190 at \$10; to Goose 10 av 167 at \$11, 2 av 200 at \$8; to Burnstine 3 av 130 at \$10.50, 8 av 150 at \$11, 3 av 140 at \$7, 3 av 200 at \$11, 6 av 150 at \$11, 6 av 150 at \$10.50, 3 av 165 at \$7; to Rattkowsky 3 av 160 at \$7, 7 av 170 at \$10.50.

Smith sold Newton B. Co. 4 av 160 at \$11.

Robb sold Kull 6 av 155 at \$11. Bishop, B. & H. sold Parker, W. & Co. 2 av 245 at \$11, 10 av 188 at \$11, 6 av 250 at \$10.50; to Applebaum 7 av 160 at \$11, 2 av 200 at \$9; to Thompson Bros. 1 weighing 160 at \$10.50, 1 weighing 150 at \$11, 4 av 200 at \$10.50, 3 av 180 at \$10.50; to Newton B. Co. 15 av 150 at \$10.50, 4 av 250 at \$8.50; to Goose 12 av 160 at \$10.50; to Rattkowsky 4 av 175 at \$10.75; to Goose 6 av 240 at \$7, 9 av 145 at \$10; to Hammond, S. & Co. 5 av 145 at \$9, 14 av 160 at \$10.50, 7 av 180 at \$10.50, 1 weighing 130 at \$8; to Sullivan P. Co. 6 av 155 at \$11, 7 av 120 at \$8.50, 19 av 130 at \$10.50; to McGuire 28 av 160 at \$11, 2 av 140 at \$9; to Sullivan P. Co. 8 av 160 at \$11.

Adams sold Rattkowsky 4 av 150 at \$10.50.

Spicer & R. sold Parker, W. & Co. 3 av 150 at \$11, 5 av 145 at \$11, 6 av 145 at \$10.50, 3 av 225 at \$9; to Thompson Bros. 4 av 150 at \$11; to Newton B. Co. 2 av 160 at \$11.25; to Thompson Bros. 1 weighing 110 at \$8; to Newton B. Co. 7 av 140 at \$10.50; to Applebaum 10 av 140 at \$10.50; to Hammond, S. & Co. 11 av 160 at \$10.60; to Parker, W. & Co. 13 av 150 at \$10.50, 4 av 150 at \$8.50.

Sheep and Lambs.

Receipts, 3426. Lambs 1 lower than last week; sheep steady. Best lambs, \$7.15@7.25; fair to good lambs, \$6.50@7; light to common lambs, \$5@6; yearlings, \$5@6; fair to good sheep, \$4@4.50; culls and common, \$2.75@3.25.

Haley & M. sold Parker, W. & Co. 7 lambs av 70 at \$7.75; to Kull 15 av 75 at \$7.50; to Harger 36 sheep av 105 at \$4, 10 av 89 at \$2.50.

Adams sold Young 43 lambs av 60 at \$6.60.

Same sold Sullivan P. Co. 31 sheep av 50 at \$3.35.

Roe Com. Co. sold Barlage 26 sheep av 110 at \$4.25, 28 lambs av 73 at \$7.25; to Newton B. Co. 27 lambs av 70 at \$7.25, 70 sheep av 105 at \$4.25; to Barlage 6 lambs av 75 at \$7, 18 do av 75 at \$7, 49 do av 65 at \$7, 26 sheep av 105 at \$4.25, 4 do av 110 at \$4; to Hayes 8 do av 95 at \$3.50, 15 lambs av 67 at \$7, 25 do av 75 at \$7.

Bishop, B. & H. sold Sullivan P. Co. 4 lambs av 65 at \$7.25, 15 do av 75 at \$7.25, 11 sheep av 95 at \$3.75, 16 do av 95 at \$4.50; to Thompson Bros. 16 lambs av 65 at \$7.25, 7 sheep av 100 at \$4.50; to Mich. B. Co. 8 do av 125 at \$4, 101 lambs av 70 at \$7.30; to Hammond, S. & Co. 47 do av 70 at \$7.25, 56 do av 70 at \$7.40; to Sullivan P. Co. 26 do av 58 at \$6, 16 do av 65 at \$6.50, 14 sheep av 100 at \$3, 31 lambs av 53 at \$5, 35 do av 50 at \$5; to Hammond, S. & Co. 47 lambs av 77 at \$7.15, 56 do av 70 at \$7.15; to Nagle P. Co. 22 sheep av 100 at \$4.25, 25 do av 130 at \$4.50, 25 do av 135 at \$4.25; to Thompson Bros. 5 do av 120 at \$4; to Fitzpatrick Bros. 19 lambs av 65 at \$7.25, 24 sheep av 125 at \$4.50; to Young 47 do av 75 at \$7.15, 14 yearlings av 85 at \$5.50; to Costello 100 lambs av 67 at \$7.

Hogs.

Receipts, 1899. None sold up to noon; prospects about 5c higher.

Range of prices: Light to good butchers, \$9.50; pigs, \$9.55; light yorkers, \$9.50; stags one-third off.

Roe Com. Co. sold Sullivan P. Co. 450 av 190 at \$9.50.

Bishop, B. & H. sold Parker, W. & Co. 1300 av 180 at \$9.50, 210 av 220 at \$9.45.

Haley & M. sold Hammond, S. & Co. 300 av 180 at \$9.50.

Spicer & R. sold same 350 av 190 at \$9.50.

Friday's Market.

July 25, 1913.

Cattle.

Receipts this week, 1819; last week, 2031. Market steady at Thursday's prices. We quote: Best steers and heifers, \$8@8.25; steers and heifers, 1000 to 1200, \$7.75@8; do. 800 to 1000, \$7.50@7.75; grass steers and heifers that are fat, 800 to 1000, \$7.50@7.75; do. 500 to 700, \$6@6.50; choice fat cows, \$6; good do., \$5.50@5.75; common cows, \$4.50@4.75; canners, \$3.50@4; choice heavy bulls, \$6.50@6.75; fair to good bolognas, bulls, \$5.75@6.25; stock bulls, \$5@5.50; choice feeding steers, 800 to 1000, \$6.50@7; fair do., 800 to 1000, \$6@6.50; choice stockers, 500 to 700, \$6@6.50; fair do., 500 to 700, \$5.50@6; stock heifers, \$5@6; milkers, large, young, medium age, \$6@8; common milkers, \$3.50@5.

Veal Calves.

Receipts this week, 1054; last week, 923. Market 25c lower. Best, \$10@10.75; others, \$6@9.50.

Sheep and Lambs.

Receipts this week, 3992; last week, 3296. Market dull at Thursday's decline. Best lambs, \$7@7.15; fair do., \$6.50@6.75; light to common do., \$5@6; yearlings, \$5@6; fair to good sheep, \$4@4.25; culls and common, \$2.75@3.

Hogs.

Receipts this week, 2860; last week, 2368. Market steady to 5c lower. Range of prices: Light to good butchers, \$9.45; pigs, \$9.50; mixed, \$9.40; stags one-third off.

Veterinary.

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

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

Stifle Lameness.—I have a two-year-old colt that is lame; the only bunch on leg is on stifle joint and this enlargement is the size of a hen egg. Our local Vet. tells me the only remedy is feather firing. F. B. N., Gaylord, Mich.—I am inclined to believe your colt should not be fired during hot weather, but apply one part red iodine mercury and ten parts cerate of cantharides to bunch once a week. Kindly understand you must keep up this treatment for some time in order to effect a cure. When other remedies fail I sometimes fire this kind of a case; however, it is seldom necessary.

Right Age to Breed Mare.—What age do you think it is desirable to breed a mare? G. B. H., Charlevoix, Mich.—I have thought it generally a mistake to breed a filly before she was three years old, and if a mare proves to be a good mother keep her at it, for horses will never again be cheap. If the produce of a mare do not come up to expectations sell her.

Enlargement on Side of Neck.—For the past two weeks a bunch has been growing on side of neck of colt and I have been wondering if a poultice would do it any good. F. A. W., Marion, Mich.—Clip off hair and apply one part iodine and ten parts fresh lard; also give him 1 dr. doses potassium iodide twice a day. The neck has perhaps been bruised and if the iodine ointment does not scatter bunch it will soften and require opening, then inject one part carbolic acid and 30 parts water into sack twice a day.

Cow Does Not Come in Heat.—I have a seven-year-old cow that came fresh May 1; since then she has not been in heat. W. P., Dryden, Mich.—Give your cow a teaspoonful of powdered capsicum, 15 grs. of powdered cantharides and 1 dr. of ground nuxvomica at a dose in feed three times a day. The effect of drugs in this kind of a case are not very reliable. A forced service will sometimes produce the desired effect.

Warts on Teat—Lumpjaw.—Bursal Swelling—Bog Spavin.—I have a three-year-old that has a great many long warts on teats and the skin is somewhat sore. This same cow has a hard bunch under jaw the size of a goose egg. I also have another cow that has a soft bunch on fore leg, but it does not interfere with her milk supply for she is giving 14 qts. at a milking. When this bunch came on her, it must have been painful for she gave very little milk. What had I better apply to soften a bunch in hock of five-year-old mare? C. A. H., Imlay City, Mich.—Clip or cut off warts and apply one part salicylic acid and four parts vasoline once a day. Apply one part red iodine mercury and six parts lard to bunch in throat every five or six days. Apply equal parts tincture iodine and spirits of camphor to puff swelling on leg daily and you may apply the same medicine to hock of mare every day or two.

Anaemic—Blood Poison.—I have a nine-year-old mare that our local Vet. treated for pinworms, but she is no better and is in a debilitated condition and I would like to know what to do for her. She also had a small bunch in throat, but this has yielded to treatment. I have another mare that had an attack of blood poison; we placed her in a sling and kept her there for a few days and now she has quite a few pimples on different parts of her body; her skin itches. W. M. Van S., Birch Run, Mich.—Give your mare ½ oz. Fowler's solution, 30 grs. of quinine and a teaspoonful of salt at a dose in feed three times a day. Give your other mare ½ oz. of Donovan's solution at a dose in feed three times a day and wash sores with one part bi-chloride mercury and 500 parts water twice a day.

Horse Afraid of Automobile and Motorcycle.—I am writing you to know what can be done for a horse that is afraid of automobiles and motorcycles. He is a very good work horse, but I can't keep him on the road when I meet either of the machines. I. L., Mohawk, Mich.—It is very difficult indeed, to overcome fear; however, if the horse could be driven double and allowed to see plenty of them, at the same time treating him kindly when frightened, he would soon gain courage after he once learned that he was in no danger. The seeing of sights often, and especially the same sights, soon becomes monotonous, and neither man or beast pays much attention to it.

Barren Mare.—Have a mare that I have owned about six weeks; she is apparently in the best of health, but I have failed to observe her to come in heat. She is ten years old, gentle in disposition, works and eats well; however, I am anxious to breed her and would appreciate a suggestion as to what course to adopt. J. H. P., Aloha, Mich.—It is possible that your mare is barren; however, you may try giving her a teaspoonful of powdered capsicum and 1 dr. ground nuxvomica at a dose in feed two or three times a day. Also clean the hand, not forgetting to trim finger nails, then oil the hand well introducing it into

vagina and gently dilating opening leading into uterus. This, or a forced service, will often times have the desired effect of bringing on heat; furthermore, it is good practice to have her teased frequently by a stallion. She may come in heat and heat and pass off without it being discovered.

Summer Cholera.—Several of my pigs have died lately, seemingly the result of diarrhea, but before their bowels move they stiffen and their membranes darken. Have been feeding middlings, and I forgot to mention that these pigs are only nine weeks old. L. S., Emmett, Mich.—I am inclined to believe that your pigs die the result of summer cholera. Mix together one teaspoonful of dry flour and add a dessertspoonful of bicarbonate of soda, also a tablespoonful of ginger in a half pailful of lukewarm water and mix this with their feed three times a day. A change of food should be made and each one of the pigs should be given a dessertspoonful of olive oil soon as they show symptoms of sickness. The flour, soda and ginger mixture is dose enough for 12 or 14 pigs.

Simple Catarrh or Infectious Catarrh in Turkeys.—I have 34 turkeys that are 10 weeks old which sneeze or cough and seem to have something in their throat or head and it is hard to tell just where the trouble is located. This ailment is doubtless contagious. I find they all have a fairly good appetite, but I have not been feeding them heavy for some time. They first showed this sickness when four weeks old. I am anxious to do something for them before they commence dying off. M. S., Sunfield, Mich.—From the length of time that your turkeys have been sick it leads me to suspect that they suffer from infectious catarrh; however, it may be only simple non-contagious catarrh. An ailment of this kind is usually the result of undue exposure to cold and dampness or to drafts of air. Now, in order to treat them successfully you should keep them clean and in a place free from drafts; besides, they should not be exposed to too much damp weather. Mix together one part salicylate of sodium, one part hypo-sulphite of soda, two parts powdered sulphate of iron, four parts ground ginger and four parts gentian root and give each turkey 5 grs. at a dose two or three times a day. Kindly understand, much depends on their food supply. It will benefit them to wash out their heads twice a day with boracic acid solution, 15 grs. to the ounce.

Knuckling on Fore Fetlock.—I have just purchased an eight-year-old horse that is over on one fore ankle, caused from over-driving on road, and I am told when his leg was inflamed they applied a strong blister which made him much worse. In his present condition he is not worth a dollar, unless he can be straightened up. He appears to me like a horse that had tendon trouble for a long time. T. J. H., Mongo, Ind.—You will obtain fairly good results by applying one part powdered cantharides and six parts lard to back tendon every week or ten days and allow him to run in pasture all the time, except 48 hours when you blister him.

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The FARM BOY
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SCIENTIFIC and
MECHANICAL

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

Stung, or the Trapper's Retaliation.

By HOWARD DWIGHT SMILEY.

COL. JOHN WATTRUSS is a small town financier. The Colonel can run down, rope and hog-tie a dollar so quickly that the human eye cannot follow the act.

The Colonel's crown of sorrow was intermittent rheumatism. He was wont to declare that whenever a big round-up occurred, such as floating a block of cement stock or engineering the promotion of a new interurban railway, he was almost sure to be stricken with inflammatory rheumatism in its most malignant form.

He had journeyed to Hot Springs, Ark., and to Hot Springs, Va., and to Mt. Clemens and Battle Creek, Mich., in search of relief, and had been relieved—of some of his surplus wealth, but nothing else to speak of.

One day the Colonel felt—or thought he felt—one of those intermittent attacks coming on, and he hastened to consult Dr. Gunsuallus on how to stave off the impending calamity.

Dr. Gunsuallus had been Col. Wattruss' medical adviser for twenty years, and he believed in "absent treatment" in the case of wealthy and chronic sufferers from rheumatism. He therefore retired into his private office and perplexedly consulted a map of the world. He was somewhat at a loss as to just where he would send his patient this time, having practically exhausted all the popular watering places.

While he was thus engaged, Ernie Werner, another small town financier, but of tender years, and for whom there is still hope of salvation, happened into the outer office in search of a prescription. The Colonel explained his own presence there as a matter of course.

"I know where you want to go!" exclaimed Mr. Werner, assuming that air of conviction he used when disposing of a block of cement stock to an unsuspecting prospect. "I've just come back from a fishing trip up around Boyne Falls. Friend of mine, Joe Beam, has a shack on Butternut Lake, hunts and traps. Some health sharks have discovered Ponce De Leon's long lost spring. It's just a little babbling brook, but drink of it, lave in it, and, Presto! You frisk away as agile as a young buck deer in the moulting season."

"Shortly a syndicate will erect a huge hotel in the midst of the wilderness and make it the greatest American Carlsbad. Just now there is nothing in the way of accommodations except Joe's shack, but he'll be glad to see any friend of mine and it won't cost you a cent except car fare."

The Colonel embraced the last proposition eagerly. An opportunity to try the latest brand of curative waters free of charge appealed to his economic side with such force that he decided to start for the woods on the next train.

The next day he stepped off the Pullman at Boyne Falls, hired a livery rig and was driven to Butternut Lake, some twenty miles into the wilderness.

A letter from Mr. Werner introduced him to the trapper, who he found whitening out pelt frames outside his shack. Joe gave him a hearty invitation to pile right in and make himself at home.

"What's the matter with your jaw?" inquired the Colonel, after the driver had deposited his bag inside the shack and driven away.

"Toothache," answered Joe in a mouthful-of-mush voice. "Know what's good for it?"

Colonel Wattruss knew how to do anything in the world except cure rheumatism, and was willing to admit it. He assured Joe he would fix that tooth in jig time.

From his bag he dug out a sheet of blotting paper. He overhauled Joe's stock

of provisions and then filled a cup half full of vinegar, added a teaspoonful of cayenne pepper, another of salt, another of mustard. He brought this concoction to a boil on the stove, poured it onto the blotter and applied it to the side of Joe's face, binding it securely in place with a towel.

"You'll feel better by-and-by," he assured the unsuspecting trapper.

The toothache did feel better. Joe forgot he ever had such a thing inside of five minutes. That blotter and contents riveted his attention completely.

Joe Beam had been brought up to endure great hardships. He endured this one for another five minutes, and then tore off the towel and looked into his shaving mirror. The left side of his face resembled a parboiled lobster and felt like a forest fire.

"Tooth feel better?" inquired the Colonel solicitously.

Joe wasn't sure. Somewhere back of the conflagration he thought he could feel the indignant molar struggling for recognition. He was certain a minute later when he applied some bear grease to his face to alleviate the smart.

The big grinder sprang to the front and asserted itself in a manner that made the woodsman yelp with pain.

"Put on the blotter again," suggested the Colonel, much distressed by the other's agony.

Only the fact that Col. Wattruss was a friend of Mr. Werner and Mr. Werner was a friend of Joe, saved the financier from instant annihilation.

"This tooth's gotter come out!" spluttered the indignant trapper. "Do you think you can pull her?"

"I don't know," answered the Colonel dubiously. "What with?"

Joe produced a stout fish line an eighth of an inch in diameter.

"Reckon this will do," he said.

The Colonel had never pulled a tooth in his life, but he did not doubt his ability to perform the act if driven to it. Confidently he secured one end of the line to the offending molar, seated Joe on a bench, mounted a soap box behind him and pulled manfully.

He might as well have tried to dislodge an oak stump in a field, so far as results showed. After ten minutes of assiduous effort he desisted, much to the trapper's relief.

The latter threw himself onto the bunk and groaned his agony, while the Colonel stood by helplessly.

"What can I do now?" he asked.

"Get me a drink of water. Follow the trail back of the shack to the creek."

The Colonel picked up the bucket and went forth. As he rounded the back of the shack his attention was arrested by the carcass of a deer that hung from the limb of a tree, some twenty feet above ground.

He noticed that the carcass was attached to a rope, which was passed over the limb, the other end being fastened to a small sapling underneath. Joe evidently used this method for keeping his fresh meat out of reach of wolves and other animals.

The Colonel had an inspiration. He hastened back to the shack.

"Mr. Beam," he said, "I know how to remove that tooth, if you'll trust me."

"Go ahead," groaned Joe. "You can't do worse than you've already done."

If I tell him what I am going to do it will scare him out of his wits, thought the Colonel. He decided to try subterfuge.

"This is a secret method," he informed the trapper. "I'll have to blindfold you."

"Go ahead."

The Colonel fastened the towel over the trapper's eyes in a manner that effectually prevented his seeing anything, and then led him forth by the end of the fish line, which was still attached to the aching molar.

He stood the trapper beside the sapling, securely tied the line to the rope, allowing for plenty of slack, and then drew out his pen-knife.

"Now brace yourself," he admonished. Joe braced, and the Colonel cut the rope.

The result was astonishing—particularly so to the trapper. The deer carcass weighed all of two hundred pounds, while Joe tipped the scales at a hundred and sixty. The deer had a nice little ten foot drop before it took up the slack in the rope, and the law of gravitation took every advantage of this fact.

The resultant jolt yanked Joe three feet into the air and mighty high broke his neck, but it fetched the tooth!

Joe had been reared in the solitudes of the big woods, where audible opinions are a lost art. He didn't say much, but he thought a lot. He was rid of the tooth—that part was all right, but he was not quite sure in his own mind if the main act in its removal was not more of a practical joke than an act of mercy.

"Now about this remarkable stream of water I am up here to try," began the Colonel when they were once more in the shack. "Ernie tells me it is a wonderful cure for rheumatism, is that so?"

"I've heard say it was," answered Joe. "Never tried it myself, but those who have say the results are plumb startling."

"Good! I am going to try it! Might as well begin right now!"

"Creek's right back yonder. Come along and I'll show you."

It was a placid little stream, with clear sparkling water and fern-covered banks. Colonel Wattruss was at once impressed by the beauty of the spot.

"It will be a real pleasure to bathe in such a sylvan pool!" he exclaimed as he began to disrobe.

"Finest drinking water in the world," averred Joe.

"This is about as good a place as any, isn't it?" said the Colonel as he poised on the brink.

"Sure," agreed Joe. "Jump right in. It ain't more'n up to your neck."

The Colonel plunged in confidently. He was a fairly good swimmer, but he had forgotten that act of the really discreet bather, which is to test the temperature of the water with his big toe before entering.

This lapse of memory nearly cost the financier his life. He came to the surface with a splutter and gasp, made one frantic effort to drag himself from the icy cold water, when his limbs doubled under him with cramps, and he floated helplessly away.

Joe crashed through the bushes after him and, as the creek was narrow, managed to overtake his man and haul him out a short distance down stream.

It took considerable rubbing and pounding before he could get the Colonel's limbs straightened out enough for him to put on his clothes and walk to the shack.

Whatever the medicinal properties of the water may have been, they could not overcome the effects of the cold shock on the Colonel's system. Inside of an hour after his emersion his limbs began to swell and shortly the financier was in the throes of inflammatory rheumatism with all its dips, spurs, angles and variations complete.

Joe had a busy time of it that night. The Colonel, in his hurry to get away,

had neglected to pack any remedies for his malady, and Joe's store of medicines was limited.

He remembered the Colonel's recipe for toothache, and offered to mix up a gallon and apply it, soaked in old newspapers, but the patient declined without thanks. The most the trapper could do was to sit up and keep the fire going, and pose as a mark for the sufferer to swear at.

The Colonel had brought a bundle of newspapers with him and, between ministering to the wants of his patient, Joe took time to skim through them. One item in particular seemed to interest him, for he turned back to it again and again with much rumination, and finally cut it from the paper and tucked it away in his wallet.

At daybreak he questioned the patient. "Have these attacks often?" he asked.

"Yes," groaned the Colonel. "Millions of times."

"Do they last long?"

"Anywhere from two weeks to six months. Can't you get a doctor for me?"

"Tain't necessary. I can cure you."

"You can!" gasped the astonished Colonel. "Why haven't you done it then?"

"It's a secret method," the trapper advised him. "I'll have to blindfold you."

"All right, go ahead!" groaned the Colonel. "I'll die if this keeps up!"

"You just lie still and I'll go fetch the medicine. I won't be long; I know right where it is."

"Go on," moaned the patient; "only hurry up! I'm dying right now! I'll never stand on my feet again!"

"Oh, yes, you will," said Joe confidently. "This medicine'll fix you up in jig time."

The trapper dug out a grain sack from under the bunk, picked up an ax and went out. He was back in an hour, but to the Colonel it seemed a month.

"Did you get it?" he asked eagerly as the other entered.

"You bet! We'll have you prancing around as chipper as a hopper-grass in no time now."

He dropped the sack in a corner and approached the bunk with the towel.

"I'll have to blindfold you so you won't discover this wonderful medicine," he said.

"Is it going to hurt?" asked Col. Wattruss apprehensively.

"Never hurt me none," answered the trapper as he fastened the towel over the other's eyes and then gently removed the blankets from the Colonel.

"I'm cold," chattered the patient.

"You'll be warm enough in a minute," answered the trapper as he picked up the grain sack. He untied the string gingerly, quickly shook the contents out onto the floor and then sprang out the door, slamming it behind him.

Joe braced a stick of wood against the door to hold it shut and then jumped for the window and closed the wooden shutter, which he also fastened.

He had no more than finished this when a mighty roar arose within. The Colonel was announcing, in his loudest voice, that he was being murdered and shrilly appealing to somebody to come and save him quick. A second later he heaved against the door and Joe promptly reinforced the stick of wood with his shoulder.

"Lemme out! Lemme out, I tell you! I'm getting killed!" howled the Colonel, who, from the sound of things, was demolishing everything in the shack.

"That medicine's working first rate," chuckled Joe, with his shoulder still against the door. "He'll just plumb wreck my shack, but he's going to get cured!"

Crash! The glass in the window went out and the Colonel was battering against the wooden shutter.

"If you don't look out you'll be letting

that medicine loose," yelled Joe apprehensively.

"You lemme out of here!" roared the frantic Colonel. "I'm getting killed! I'm being eaten alive!"

"You just be calm," admonished Joe. "You're being cured of your rheumatiz."

Crash! A wooden bench struck the shutter from within and knocked it from its hinges. Joe promptly ducked and ran, nor did he pause until he had put a good quarter of a mile between himself and the scene of activities.

When, half an hour later, Joe cautiously approached his domicile, he discovered the Colonel seated on a log, about one hundred yards from the shack, clothed in a suit of light underwear, and gingerly rubbing himself.

"What in thunder were you trying to do?" he demanded indignantly.

"Cure your rheumatiz," answered Joe meekly. "Feeling better?"

"Cure rats! Those bees mighty near stung me to death!"

The Colonel's visible anatomy resembled the back of a wart toad, in the matter of bumps, and a Kansas sunset in hue. Also it was quite evident that the Colonel was very much wrought up.

Joe took his wallet from his pocket, extracted the clipping and handed it to the Colonel.

"Here's a piece I cut out of the paper you brought yesterday, which says that a big dock has discovered that bee stings are a sure cure for rheumatiz. You was suffering something terrible last night and I didn't know what to do for you until I read this. I knew there was a bee tree handy and so I just went out and smoked 'em, and chopped her down and got a sackful of bees and turned 'em loose on you for general results. Near as I can figger, she worked first rate."

"You go get my clothes!" ordered the indignant financier. "I'm going home!"

"How are you going to get to Boyne Falls?" asked Joe.

"I'm going to walk!"

Twenty minutes later Joe was standing in the middle of the trail, watching the indignant Colonel striding off in the direction of Boyne Falls, bag in hand. The Colonel's step was strong and springy and there were no indications of lameness.

"Guess them bees done the business," chuckled the trapper. "Last night he couldn't move a muscle."

A year later he received a letter from Colonel Watruss, profoundly apologizing for his rudeness, and enclosing a check for a hundred dollars. The letter read in part:

"Your treatment was drastic, to say the least, but it has certainly demonstrated that Dr. Cornell is right in his surmise that bee venom is a sure specific for rheumatism. I haven't had a recurrence of the attack since you turned those bees loose on me."

DOROTHY, FLUFF AND THE SILVER BELLS.

(Concluded from last week.)

Everybody and everything on the place was provided for, while Fluff's future was still a problem. It wasn't possible to take her with them, for they were to make several visits before sailing, and kittens as a rule don't like traveling nor visiting. Dorothy wept over leaving her pet until Grossmutter said that she almost wished they had never seen Fluff; but that was something so dreadful that Dorothy immediately began to control her grief and take a more reasonable view of the situation. She did the best thing possible, both for herself and Fluff. She took the kitten in her arms and set out upon a round of calls. She visited every house in the neighborhood and finally found a boarding place that she hoped Fluff would like. Two old Quaker ladies, who lived in a little vine-covered cottage at the foot of the hill where Grossmutter's house stood, consented to take the kitten and keep her until Dorothy came again, and they promised to write once a month and tell Dorothy all about her.

And now it was possible and even pleasant to make plans for Fluff's comfort. Dorothy made a new soft cushion for the sleeping basket, and herself chose its winter resting-place behind the big stove in the sunny sitting-room. She bought a new ball and a string of large wooden beads, and last of all she got a beautiful collar. It was made of soft light brown kid, with a dainty silver buckle, and plenty of holes in the strap to allow for the growth of Fluff's neck during the year.

There was a silver plate, and on it was engraved "Fluff." As a finishing touch

to this handsome collar Dorothy tied on two little silver bells, which pleased Fluff very much, for kittens are often very vain, you know; but in time this kitten learned that, though tinkling ornaments may be all very well in their way, yet sometimes life is much more satisfactory without them. In spite, however, of her new collar and the musical bells Fluff was not quite at ease. She seemed to know that Dorothy was going away, and she would follow her about. If by any chance she lost sight of her mistress, she would wait so piteously that everybody would leave packing, or whatever was being done, and join in the search for the little girl.

At length one evening at dusk Grossmutter and Dorothy took a little covered basket like the one that had brought Fluff—only this was the next size larger—and with the kitten inside and the cover securely fastened, they went down the hill to the Quaker ladies' cottage. Dorothy was very sad at leaving Fluff, but she did not cry as much as she thought she should, because it was so difficult to persuade Fluff to lie down in her sleeping basket that she got quite interested and excited with her task. Finally, however, the kitten allowed herself to be petted into a sort of drowsiness and was quiet long enough for Dorothy to slip hastily out of the room, and the parting was accomplished.

The next morning, long before Fluff's breakfast, Dorothy had sailed out of the lovely harbor, past the light-house on Brant Point, and with tears in her eyes was trying to forget Fluff in watching the clouds of wild ducks flying low across the sound. Now, when the old ladies opened the outer door that morning, Fluff, who hadn't enjoyed her breakfast as much as usual owing to the strangeness of everything, darted out and up the hill to see what had happened, for naturally she was a little bewildered at these unusual doings. How do you suppose she felt when she found that no door or window opened to let her in? No soft voice called sweetly, "Fluff, where are you?" She searched all about the house and grounds, but nobody she knew and loved was anywhere to be seen. At last she thought that she would go to the minister's house, for she had often been there with Dorothy and had always been petted and played with as much as she liked. So she trotted across the lawn and, jumping up on the broad ledge of the window of the dining-room where the minister and his wife were at breakfast, she mewed plaintively. The kind minister came immediately and let her in, and then Fluff ran through the rooms excitedly searching everywhere for Dorothy. Finally she came back and, looking up in the minister's face, mewed again loudly as if to ask, "Where is Dorothy?" The minister, who liked kittens and who was always good to anything or anybody in distress, took Fluff up and talked to her; he told her gently that Dorothy had gone away, but would come back again perhaps in a year, and that she must be a good kitten and everybody would be kind to her and help cheer her loneliness. Whether Fluff understood this long speech I do not know, but she became quiet and even showed some interest when the minister picked up a morsel of fish and gave it to her on his fork.

The minister's wife said, warningly, "This time shall not count, dear, but you mustn't spoil Fluff's manners." All that day Fluff was very restless. She went many times to Grossmutter's house and looked up at the windows, but she didn't cry any more. At night the kind minister took her home to the old ladies, who had been very anxious about her all day. She soon curled herself up in her basket and slept soundly.

Every morning after her breakfast at home she would appear at the minister's window and ask to be let in; then, after greeting him with a good-morning "miauw" she would patter out into the kitchen where, on a particular corner of the zinc under the stove there was always a tid-bit awaiting her in a pretty cracked plate.

At noon she seemed to prefer to dine at home, but her supper she chose to take at the minister's, and she never failed to go into the sitting-room for a good-night before she asked the maid to open the door for her to go.

When, as sometimes happened, the minister's family were away, Fluff would visit the next house where the colonel and his wife lived, and there, too, she always found a cordial welcome and something very good to eat. So you see she got on very comfortably, though she did miss Dorothy and the games and

romping, for of course the old ladies were not very spry, and there were no children in the neighborhood. Besides, Dorothy seemed to have taken with her all the butterflies and birds, for there were only English sparrows left and they always came in such crowds and screamed and scolded so loud that Fluff only looked out at them wistfully from under the corner of the steps, but never dared to clamber up the vine-trellises into the midst of such a fluttering and sputtering family. She used to think sometimes of that one exciting experience when she had hunted down the poor little mouse, and she longed for another wild chase. She often listened in dark corners and queer out-of-the-way places but she never heard the gnawing of tiny sharp teeth nor the almost shadowy sound of the slender little feet. Fluff did not know that the tinkling of her beautiful silver bells could be heard so far away by the wonderfully quick ears of mice that they always had warning of her approach.

At last it was mid-winter. The minister and the colonel were both to close their houses and leave the island for several months, and again Fluff's comfort was to be thought of. Suddenly the minister had a bright idea, which wasn't anything unusual, of course; but it seemed strange to him that he hadn't thought of it before.

He remembered that Fluff, being a kitten, had her own rights and privileges, one of which was catching mice. He knew that besides the sport she would probably enjoy a meal obtained by her own efforts, so he took off the silver bells, and that very evening Fluff brought a tiny mouse and laid it before him; after he had stroked and praised her she snatched it up and ran away. What followed he did not see, but he now felt easy about Fluff's future. The kitten herself at first missed her silver bells, and often pulled her collar around to look for them, but life had all at once become so interesting that she soon forgot them. One day she came up the hill with a note pinned on her collar. It contained a request from the old ladies that the person who had removed the bells should put them back again, so the good minister went to see the old ladies, as he had meant to do, and told them how they had all conspired to deprive Fluff of her rights, for she could catch no mice as long as she was decorated with the silver bells, and he suggested that they should be put away until Dorothy came back and then Fluff might wear them to celebrate the joyful event. The old ladies saw that the minister was wise, and they also understood why they had thought that Fluff was not a good "mouser," but they soon had reason to change their opinion about that matter.

Fluff seems very contented and happy in these days, and I'm not sure that she even remembers all that happened through the beautiful summer, though sometimes when it is stormy and she doesn't wish to go out, she lies quietly on her silk cushion with such a serious and far-away expression in her lovely yellow eyes that the old ladies say softly to one another, "she is thinking of Dorothy." And perhaps she is, only with cats one can never tell.

SMILE PROVOKERS.

The night watchman of a large hotel saw an apparition in white moving along the hall at 2:00 a. m. He hastened his steps, and tapped on the shoulder what proved to be a man.

"Here, what are you doing out here?" asked the watchman.

The man opened his eyes and seemed to come out of a trance.

"I beg your pardon," he said, "I am a somnambulist."

"Well" said the watchman, "you can't walk around these halls in the middle of the night in your nightshirt, no matter what your religion is."

A girl, a great lover of Nature, went to the seashore for a holiday, and, approaching a typical fisherman said:

"Ah, sir, how well you must know the face of Nature, and know it in all its moods! Have you ever seen the sun sinking in such a glare of glory that it swallows up the horizon with fire? Have you not seen the mist gliding down the hilltop like a specter? Have you never," she went on impassioned, "seen the moon struggling to shake off the grip of the ragged, rugged storm-cloud?"

"No, Miss," responded the fisherman. "I used to see dem things, but I'm on the water-wagon now."



Clover Blossom—"Anty Drudge, do you like my dress? I made it. I'm going to wear it to the Grange Dance tonight. I never had a fancy dress before, but Ma and I wash with Fels-Naptha Soap now and I knew the light blue wouldn't fade, and the lace wouldn't have to be rubbed to pieces."

Anty Drudge—"You look sweet! I'm glad I told you about Fels-Naptha Soap. It won't hurt anything."

Fels-Naptha Soap won't harm the daintiest fabric, nor fade the most delicate color. But it will do the hardest, coarsest kind of work as well and as easily as it will do the finest.

All you need is cool or lukewarm water. Fels-Naptha Soap will do the rest. Clothes soaped with Fels-Naptha and put to soak are practically clean when you come to wash them. They don't need hard rubbing or boiling.

It dissolves grease on pots and pans, takes out all kinds of stains, makes dirt disappear.

Directions for doing all kinds of work with Fels-Naptha Soap are on the Red and Green Wrapper.

Fels & Co., Philadelphia.





Woman and Her Needs

At Home and Elsewhere



Don't Be In a Hurry to "Get Even".

WHEN I was a child we had a neighbor who went by the nickname of "Old Bunting Wilcox," and everyone could stop work long enough to tell the newcomer how the old man earned the name.

It seemed he used to settle all those domestic squabbles which enliven the tedium of married life by bunting his own head against the wall. When he and the good wife had a difference of opinion, instead of beating her, as is the manner of some men, he retired to his own room and knocked his own head smartly against the side of the house. This arrangement was highly satisfactory to both parties. At least the wife didn't mind and it seemed to relieve the old man's feelings as much as swearing or fighting do other men's.

It is not my purpose to offer this course of procedure as a sure way of settling family quarrels, though there would be more happy wives if more men tried it. It is simply to call attention to the fact that there are a great many of us who might enjoy the same sobriquet so far as our actions go. Many of us are "knocking our heads against the wall," figuratively speaking, in the misguided opinion that we are spiting someone else.

Children are more prone to do this sort of thing than grownups, for experience, that blessed teacher, usually shows us the folly of bumping ourselves because we are mad at someone else, before we reach adult age. I have in mind a girl of 12 who was miffed at her mother because she was refused a second dish of sliced peaches and cream. She went out to the orchard and ate three dozen peaches without stopping to breathe, as it were. After the doctor had left with his stomach pump, and the memory of castor oil had died away, the young lady decided that it is better not to bump yourself just to get even with someone else.

Of course, she was a foolish child. But it is such childish knocking of oneself that fills our jails. Boys and girls, men and women, defy the law, often with the idea of spiting the officials. They get the mistaken notion that the individual is bigger than law, and that they have the right to do anything they please. Boys between 14 and 22 years of age are so apt to resent any attempt to bridle them in any way that they often break the laws, not from any inherent badness but just to show the officers they will do as they please. Now, bless you, the officers don't care if you break them. It's up to you to behave, and if you do not it is up to them to arrest you and put you in jail. Then you will have plenty of time to reflect on how little anyone else cares when you knock your own head against a hard, hard wall.

Perhaps the most foolish of all the folk who knock themselves are the girls who marry for spite. A girl is jilted. Her lover leaves her for a prettier face, or for a girl with more money, and just to show him that she doesn't care a mite about him she rushes off and marries a man that she wouldn't look at twice if she were given her choice. If she would only stop to reflect that the man she is trying to spite will only laugh in his sleeve, and that she will be the one to suffer, would she be in such haste? There is no form of punishment known to humans more awful than having to spend your life with someone you do not care a little bit about. And the worst of this is that the innocent party must suffer too.

It is well when we are thirsting for revenge on someone, to stop and reflect. Who will be worst hurt, the party we want to reach or ourselves? Invariably we will be the ones hardest hit, for revenge is a boomerang that always comes back to the sender.

DEBORAH.

DESCRIPTION OF CROCHETED LACE AND INSERTION.

BY PEARLE WHITE M'COWAN.

Insertion.

The solid circles in both lace and insertion are termed wheels, and all the so-called fans are very open, being made with chains of three between each double crochet.

Terms used, ch, chain; d. c., double crochet; sts, stitches; st, one stitch; sc, single crochet.

Chain 28.

First Row.—Count back 4 sts and dc, ch 3, dc in same st as before, ch 3, dc in same place as before. Count back 8 sts on ch and dc in 8th st. Ch 3 and dc in same place, ch 3 and dc in same place, ch 3 and dc in same place. Ch 9, turn and catch, back in 4th st of this chain, making a loop. Dc into this 7 times, then catch on first chain, by a sc 8 sts back from last fastening. Now dc 7 more times into this same loop, then dc into last st of first ch. Ch 3 and dc in same st, ch 3 and dc in same st, ch 3 and dc in same st. Ch 4 and turn.

Second Row.—Dc into center of last fan, ch 3 and dc in same place, ch 3 and dc in same place, ch 3 and dc in same place, dc in center of 2nd fan, ch 3 and dc in same place, ch 3 and dc in same place, ch 3 and dc in same place. Now dc 14 times into loop thereby making a solid wheel, then dc into center of last fan, ch 3 and dc in same place, ch 3 and dc in same place, ch 3 and dc in same place. Ch 4 and turn.

Each succeeding 2 rows are but a repetition of those already described, except that the position of the wheels is made to alternate in the different rows, and the 7th and eighth rows are made entirely of fans, thus forming the wheels

into groups of three as shown in the illustration.

Lace.

First Row.—Ch 51. Turn and dc in 5th st back on chain. Ch 3 and dc in same place, ch 3 and dc in same place, ch 3 and dc in same place. Ch 9, turn and catch back in 4th st of this chain thereby making loop, into which dc 7 times. Count back 8 sts on 1st ch and sc therein, turn back and dc 7 more times into loop. Count back 8 sts on 1st chain and dc therein, ch 3 and dc in the same place, ch 3 and dc in the same place, ch 3 and dc in the same place. Count back 8 more sts on 1st chain and dc therein, ch 3 and dc in same place, ch 3 and dc in same place, ch 3 and dc in same place. Ch 9, turn and catch in 4th st of this ch, thereby making loop, into which dc 7 times. Count back 8 sts on 1st ch and sc therein, then turn back again and dc 7 more times into loop, thereby making first half of wheel. Count back 8 more sts on original chain and dc therein, ch 3 and dc in same place, ch 3 and dc in same place, ch 3 and dc in same place. Ch 10 and catch in last st of first chain. Ch 3 and turn.

Second Row.—Dc into large loop formed by two chains 16 times, dc into center of last fan of preceding row, ch 3 and dc in same place, ch 3 and dc in same place, ch 3 and dc in same place, thereby making fan. Now dc 14 times into loop, thereby finishing the wheel. (The fans and wheels are so simple to make, that further description of them would seem to be superfluous, therefore hereafter we will merely say 1 fan or 2 fans as the case may be, and 1st or 2nd half of wheel). Two fans, last half of wheel, 1 fan, ch 4 and turn.

Third Row.—Three fans, 1st half of wheel, 2 fans, ch 3 and dc into 1st st of the 16 double crochets of the previous

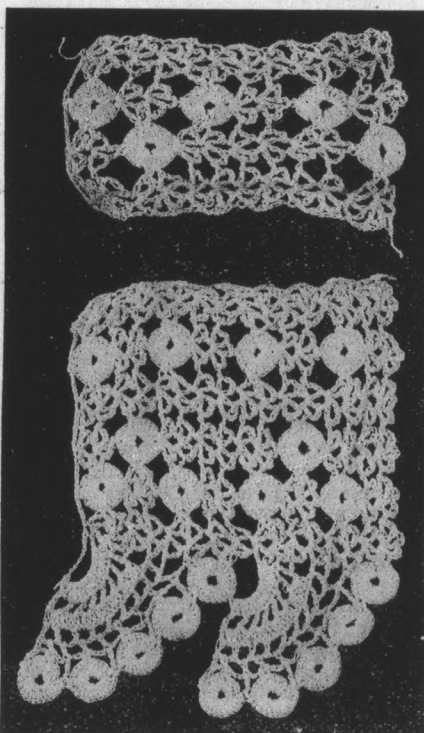
row, ch 3 skip 1 st and dc into 3rd st of the row of 16 double crochets of previous row, repeat to the end, thereby making 8 double crochets in the row of 16 double crochets of the previous row with a ch of 3 sts between each. Ch 3 and turn.

Fourth Row.—Dc 3 times into each mesh of the preceding row thereby making a solid row of 21 double crochets, then ch 3, and make 2 fans, last half of wheel, 3 fans, ch 4 and turn.

Fifth Row.—One fan, 1st half of wheel, 2 fans, 1st half of wheel, 1 fan, ch 3 and dc just in front of row of 21 double crochets of previous row. Now ch 3 and dc into center of first group of 3 in this same row of 21 double crochets. Repeat to the end, chaining 3 and double crocheting into each succeeding group of three, thus forming 9 open work square meshes. Ch 3 and turn.

Sixth Row.—Make 8 square meshes by double crocheting into each of the meshes in the preceding row and chaining 3 between each dc. Ch 3, 1 fan, last half of wheel, 2 fans, last half of wheel 1 fan, ch 4 and turn.

Seventh Row.—Six fans, 1st quarter of wheel, caught by a sc just at the outer



edge of last fan of preceding row; 2nd quarter of fan, 1 dc in dc of preceding row, 1st quarter of fan, catch by sc in dc of previous row, 2nd quarter of fan, dc in dc of previous row, continuing thus to the end of this row, making in all the first half of five fans with a dc between each.

Eighth Row.—Dc 14 times into loop thus finishing the second half of the first wheel, sc into dc of preceding row, last half of 2nd wheel, sc into dc of preceding row, last half of 3rd wheel, sc into dc of preceding row, last half of 4th wheel, sc into dc of preceding row, last half of 5th wheel, 6 fans, ch 4 and turn. This is the last row of the scallop.

The first row of the next scallop is made the same as the first row of this one except that the counting of stitches on the first chain is, of course, done away with, the centers of the fans of the previous row serving as pivots into which the fans and chains of this row are caught. The chain of ten which begins the scallop is caught in the center of the last half of the first wheel of scallop No. 1.

SOME OF THE FABRIC TERMS.

BY A. L. L.

What woman has not wondered what the clerk meant when he talked glibly of de chines and de soles and Jacquards and boucles and what not? A dictionary of the terms used over the counter would

be a welcome addition to most libraries. Cut this out and save it as the beginning of your dictionary.

Chine means printed on the warp, so that the design appears only faintly.

Jacquard is also a term applied to the design. It is called Jacquard after the man who invented a mechanism to weave complicated figures into the cloth.

Cravanette, contrary to the general notion, is not a fabric. It is the process of waterproofing silk, wool or cotton.

Voiles is a semi-transparent cloth, either silk, wool or cotton.

Pompadour refers to small floral designs.

Boucle is a fabric with knots, loops or curls on the surface.

Messaline "silk" is really a light-weight satin.

Charmeuse is also a light-weight-satin with a high luster.

Chiffon was originally a sheer silk tissue of plain weave and soft finish. Because of its light weight and soft finish the term came to be applied to cloths with these qualities so that we have "chiffon tafeta," chiffon velvets, etc.

Eponge is a French term meaning cloth that has been sponged.

Rep is a cloth having cords running crosswise, whereas in corded cloths the cords run lengthwise.

FURNISHING THE HOME.

In choosing a home one should have an eye to the surroundings. If it is in the rural district see that it is on a main traveled road, or one that will be in time, and that the building spot is in a pleasant place.

Surround the home with trees, flowers and shrubs so that it will be a pleasant sight to those passing by and also to yourself as you look out. Nice wide porches add so much to the home comfort! A hammock, some rockers or seats are time in summer. A few plant boxes and cushions on a nice large porch make a most desirable place to spend all leisure of geraniums, nasturtiums, pansies or asters add wonderfully to the home surroundings and do not require much care.

In furnishing the interior of the home, simplicity should be the keynote in everything. The plainer the furniture, the silverware, the range, etc., the easier it will be to keep them clean. If one can have the selecting of the wood to be used in finishing the rooms, choose the wood-work and floors of hardwood waxed and polished. I prefer the wax to varnish or paint because it can be just rubbed over with a waxed cloth occasionally and made to look like new.

With the polished floors for the farm home, the large rag rugs to come about two feet from the wall all around, are my choice for bedrooms, sitting-room and dining-room. In buying the furniture we should not put all the money in one or two rooms and let the others suffer for it, but divide the money so that the conveniences of the kitchen will average with the furniture in the living-room. Then, if we try to add each year something to each room that we have really wanted we will enjoy it more than as if we had it at first.

The bed-room furnishings should be simple and plain. If one can have one bedroom, at least, down stairs, so much the better, as it is much more convenient in sickness. A great amount of care should be exercised in furnishing the children's rooms and especially the boys. Too many mothers think that the girls' rooms should be dainty and nice, but anything will do for boys to romp in. If the boys' room is furnished neatly and they are taught to have a place for everything and everything must be in its place, except when in use, they will take as much, or more, pride in keeping it tidy, as the girls. Let the pictures and books in their room be of something that really appeals to them. If they are especially fond of horses, frame a picture of Pharaoh's horses or some of the other

beautiful pictures of horses and hang in their room. Give them a copy of Black Beauty. Or if they care for dogs frame a picture of Beautiful Joe and give them the book. Off from each bedroom should be a nice large closet and if the closet is supplied with the hangers for men's and women's clothes, it will mean a great saving in room needed, also in the work of pressing.

The living-room should have, first of all, besides a few comfortable chairs, a good-sized reading table supplied with a good lamp, one that will give a good light if it can be secured, papers, books and magazines for all members of the family. For here, around this table, to a great extent will be formed the characters of our boys and girls. Next, a writing desk or table with pens, pencils, paper and ink ready to be picked up and used at any time.

Musical instruments are a great source of pleasure in the home and are so reasonable now in price that nearly all families can afford at least an organ.

There should be a well filled book-case with good books for the children, as well as the older ones. If one gives a child a good book at each birthday he will be more apt to read it and be interested in it, than if it is just bought and put in the library and in this way you will soon fill the library with the books needed.

The curtains should be of a material thin enough to be easily seen through or if of a heavier, closer weave, should be drawn back nearly to the casing, and a drape hung at the top, for it is very unsatisfactory, especially to the men of the house to wish to see something outside and have a curtain so thick they cannot see through.

There should be a few small pictures, pictures with a meaning, not anything that can be picked up, in small, plain frames, to brighten the walls of this room.

In building a home if one would arrange to have a bath-room in it, they would not put in anything that would give more pleasure to the entire family. In this room, besides the necessities for the toilet, should be a medicine cabinet. If we haven't the bath-room, this should be in the mother's room or some other convenient place where the unsightly, though necessary medicine bottles can be kept and locked away from the little ones.

The dining-room should be light and one of the most pleasant rooms in the house, and well supplied with plants and flowers. The furniture should be plain and, of course, as expensive as one wishes to afford. I do not care for the plate rails or things of that kind in the average home where the housewife does her own work, because it means too much dusting. Pretty fruit pictures will decorate these walls nicely.

In the pantry the enclosed cupboards are my choice where things are put away out of sight and dust. If the kitchen floor is covered with linoleum it will wear for several years and is very easily cleaned. The range, work table and sink should be so arranged as to save as many steps as possible.

I have not spoken of the library or parlor in my home furnishing, because they are not found in the average home. If one can have the library it is a great help but I do not care for the parlor. To me the word parlor brings with it the thought of a room closed, only to be opened on special occasions. There is much more of a feeling of friendliness and fellowship in the living-room, where the family live, where, in the evening, the family gathers to spend a pleasant hour before retiring, either all to sing or the older members to read or write, the younger ones with games and the little ones with toys, than there is in the parlor where papers, games and toys dare not enter for fear the room will not be in perfect order.

The things I have mentioned cannot come to all of us at the beginning of home-making, but the longer we wait and the harder we strive for them the more we will enjoy them when they are ours to enjoy.

OUR MOTHERS WAY OF "DOING UP" FRUIT.

BY A. L. L.

Our mothers and grandmothers used to dry large quantities of fruit instead of canning so much. The process is simpler than canning, and if the fruit soaks over night in water before being stewed for use satisfactory results are obtained. Pears may be dried as follows:

Pare, quarter and core the fruit and to every six quarts allow one cup of sugar. Add just enough water to prevent burning, stew until tender, take out the fruit and arrange on plates or platters, boil down the juice and pour over it and dry in the oven. Peaches may be dried in the same way.

To dry citron, cut in inch pieces after paring, boil with an equal amount of sugar until clear, then remove the fruit, boil down the juice until thick and pour over the citron, which has been placed on plates. This need not be dried in the oven. Let it stand in a clean, dry spot, covered with a thin cloth to keep out dust and insects.

Cherries may be dried by simply letting them stand in the sun after pitting them and sprinkling with sugar. Berries should be picked over, washed and sprinkled with sugar. They may then be dried in the sun or in a slow oven.

After drying, the fruit may be packed in jars or tied up in sacks and put away in a dry place. Of course, it must be done up so tightly that no dust or vermin can enter. The dried cherries may be used in fruit cake instead of raisins, or in any way that raisins would be used and many think home-dried cherries superior to the store raisins. If desired for sauce soak the fruit over night in water to cover and cook in the water in which it soaks.

Drying fruit has the advantage of being more economical than canning as it does not require so much sugar, and there is no expense for cans, tops and rubbers. Neither does it require so much fire, as a great deal of it can be done by the heat of the sun. It is not so tiring a job, either, as it is usually spread over several days, instead of having to be done all at once. There is not the necessity for sterilization and the close attention to many details to exclude germs and prevent spoiling. Altogether it seems to be a method that the busy farm-wife should practice more extensively.

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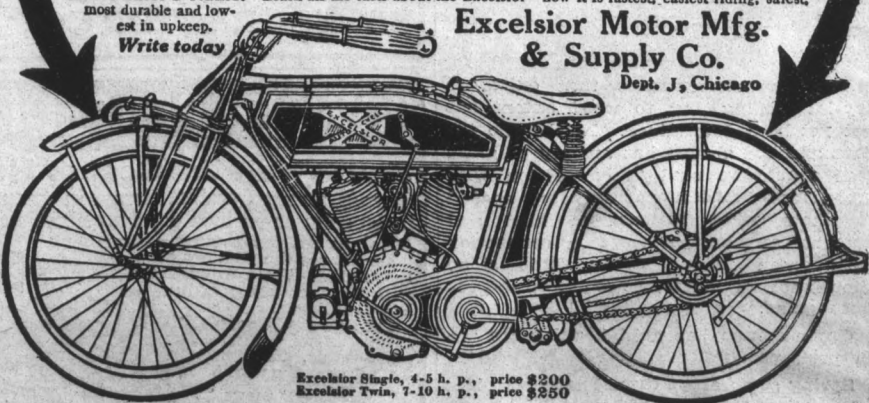
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As a user of fertilizer I would like to know how much phosphate rock to apply per acre in order to get the same results as from 300 lbs. of complete fertilizer? Also, would it be a good plan to use phosphate rock as an absorbent in stables?

Allegan Co.

J. P.

We have not been willing to advise the use of raw phosphate rock on Michigan soils. Of course, raw phosphate rock will improve and build up the permanent productive capacity of a soil in time, but it is made available so slowly, especially, we think, on most Michigan soils and particularly the soils of western Michigan which, as a rule, are considered deficient in organic matter, that it seems uneconomical for a farmer to pay for raw phosphate rock expecting to get any measurable results therefrom. There might be some advantage in using phosphate rock as an absorbent in the stable but physically the raw rock is very nearly inert and consequently will not act as an absorbent any more than ordinary dust. So we do not enthuse very much over the use of raw phosphate rock even in this relationship.

The fertilizer of a phosphate nature which is most available at the present time is known as acid phosphate, or sometimes as super-phosphate. Our attention was first called to the advisability and the practicality of using acid phosphate as an absorbent in stables by Mr. Colon C. Lillie. Due to a discussion over the value of gypsum as an absorbent in the stable and because of some of our objections to acid phosphate as a fertilizer in general, Mr. Lillie suggested the use of acid phosphate as an absorbent in the stable, the principal reason for this being to trap the ammonia which is lost to a high degree from the liquid excrement. This seemed to us an admirable plan and we think the nail has been hit airily on the head to state that the real place for the use of acid phosphate is liberally applied in the stable. In so doing it is certainly brought in contact at the same time with organic manures, and, as we have stated in these columns from time to time, to get the most benefit from the use, particularly of phosphatic fertilizers, they should be combined with organic manures. By using the acid phosphate in the stable the evil effects of a possible excess of acid are overcome; the ammonia which is so prone to escape is trapped, or conserved, and the phosphate is, in the third place, coupled with its desirable amount of organic fertilizer. A manure thus reinforced with acid phosphate should be a very valuable fertilizer indeed, and we suggest to the questioner above that instead of using raw phosphate rock he secure acid phosphate and use it as an absorbent in the stable freely and then apply it to his soil along with the barnyard manure, and that it be distributed as liberally over the soil as he feels able to do.

In these columns we have explained two or three good reasons for the supplementing of corn with succulent feeds in the ration for hogs. We may summarize by saying that the first reason was the total inadequacy of corn from a mineral standpoint to provide for the bony structure in swine. The second was merged more or less with the first, in that we showed the predominance in corn of the unoxidizable acids over the bases or alkalies. From these two premises we should argue that, especially in growing swine, rations should be provided which overcome the deficiency of corn in these two important relationships.

The use of green feeds in connection with corn will diminish the need for nitrogenous concentrates that exists in dry-lot feeding, but to what extent has not yet been determined. Neither do the data at hand show what amount of grain feed should be used in connection with green feeds. Additional data are needed to show what rations, in kind and amount, are best for use in connection with green feeds. Green feeds alone should not, of course, be expected to produce gains.

Green forage has a high value for use in pork production.

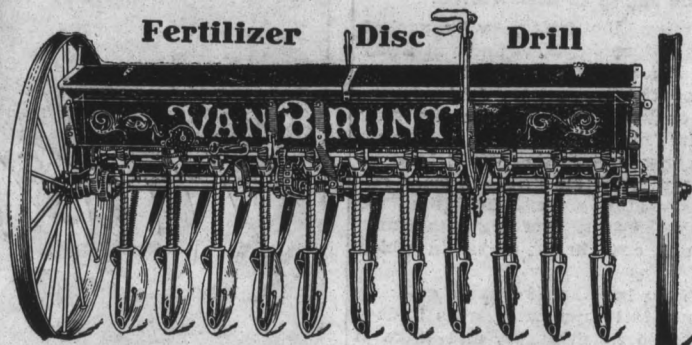
Spring sown crops cannot take the place of earlier sources of green feed for swine, but should be used to supplement them.

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