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FARM NOTES.

Proper Care of Meadows and New Seeding.

In a season like the present when an unusual period of dry weather has prevailed before the haying and harvesting season, the after care of the meadows and new seeding is of more than ordinary importance to every farmer. This is the more true because of the drying up of pastures, which makes feed short upon the average farm and makes the utilization of the little fresh pasture that springs up on the meadows after haying appear as the only feasible means of carrying the farm stock over the dry season. So in far too many cases the stock is turned into the meadows at once and are allowed to graze them closely. This is not a profitable procedure upon any farm, particularly in a season like the present when the catch of clover in spring sown grain particularly is a doubtful proposition. The close grazing of the meadows at this time is certain to shorten next year's hay crop if they are to be retained another year and in any event it is poor policy to remove all of the covering of grass from the soil for the balance of the season and leave it practically bare over winter. The old meadows should be pastured sparingly, if at all, and there is no doubt in the writer's mind that it would pay far better to feed the stock in the barn or yard if necessary, and not pasture them at all. In fact, the pasturing of tilled fields used for the growing of crops in the regular crop rotation is expensive, both from the standpoint of the income thus derived from them and the effect of the tramping and close grazing on the soil, and we believe the time will come when this method will be much less common on our higher priced lands than it is at the present time.

But if the close pasturing of the old meadows is a poor policy, the same treatment of the new seeding is much worse. By all means keep the stock out of the new seeding where a fairly good stand of clover is secured and if the clover gets a large growth or if the weeds should encroach upon it, run over it with the mower later in the season and leave the clippings on the ground as a mulch for the young clover plants. This will prove a valuable protection over winter and the yield of hay next year will surely be enough larger than if the seeding is pastured to more than make up for the value of the feed which might be secured from it this season. The writer has made this common mistake of pasturing new seedings of clover so

many times that he has no remaining doubt of the fact that it does not pay, and although it is sometimes almost necessary to turn a few head of stock in for a time when several divisions must be made and there are not enough available fields to accommodate all the different lots without turning into a seeding, it is far better to avoid it if possible, since even if but lightly pastured, the stock will eat the grass closer in spots than in other portions of the field and the results are not nearly as satisfactory as clipping, even when there is an abundant growth

balance of the season after the grain is removed.

Analyzing Soils.—Lime for Acid Soils.

Where can I get a sample of soil analyzed? What is the constituent part of lime needed for correcting an acid condition of the soil? Is there enough of it in marl to make it profitable to draw the marl about three miles? The reason that I ask these questions is because some firms offering agricultural lime for sale claim their product to be 98 per cent pure carbonate and I desire to get a clearer understanding of the proposition.

Berrien Co.

SUBSCRIBER.

While it would be possible to get sam-

pounds, not anywhere near all of which are available for the use of growing plants. For this reason a chemical analysis of soils is not considered to be a very valuable guide as to their fertility and not in any sense a valuable guide to follow in their intelligent fertilization. A physical analysis of a soil which will determine the size and nature of its soil grains and its content of humus or vegetable matter gives a much better knowledge of its crop producing power, but this is a question which the soil will answer for itself, and it will answer the question

of what elements of fertility are lacking in an available form for the growing of crops much better than the chemist can answer it. If one suspects an acid condition of the soil the simple test made by the use of blue litmus paper is a valuable guide, but here again the character of the vegetation growing on the soil will prove an indication in this regard and indicate when such a test should be made. So the average farmer will do far better to use his own observation and reasoning power in this regard than to consult a chemist when he thinks his soil needs doctoring, since he is apt to get better results by this method than by following the chemist's advice.

A competent chemist, however, would be far better able to give a correct technical answer to the questions asked with regard to lime than a farmer, yet a simple explanation will serve to give the reader a sufficient knowledge of the question to answer all practical purposes. The ingredient which gives lime its character and value for different purposes is calcium, an elemental substance or metal which, however, is never found alone in nature but always in combination with other common elements. In limestone it occurs in the form of carbonate of lime or a salt of carbonic acid which gives it its name. This combination, however, is never entirely free from other substances, of which there are generally several present in small amounts. Of these, magnesia is the most common and generally present in the largest quantities. Marl also has as its principal constituent, the carbonate of lime derived from shells, and the percentage of carbonate of lime in either limestone or marl is given to indicate its purity or freedom from other harmful or useless substances for the purpose to which it is to be put. Burned limestone, or "lime," as we usually designate this product, is the oxide of lime or calcium oxide, the carbonic acid gas being driven off in the burning and replaced by oxygen to form the new



Cutting Alfalfa on the Starkweather Farm. (See "Alfalfa in Wayne County," page 38).

of the young clover. But this year the clover will be small in most fields at harvest time on account of the dry weather which has prevailed, since the ripening grain has taken so much moisture from the soil in the unequal battle for this necessity of plant life that the smaller and weaker plants have not had the opportunity to make a vigorous growth that they would have had under more favorable conditions, and it is more than ordinarily important that the clover seeding be given the best possible chance for the

ples of soil analyzed at almost any well equipped laboratory, such an analysis would give you very little valuable information. This is true because of the fact that while the chemist can tell you what the soil contains in the way of plant food elements, he can not distinguish between the available and unavailable compounds of those elements. Practically all soils contain an abundance of the elements of plant food to provide for the needs of growing crops for many years, but these elements exist in many different com-



Hustling in the Clover Hay on the Farm of Charles Woods, of Gratiot County.

combination. This new combination is, however, less stable than the one found in nature and under the influence of atmospheric conditions will gradually revert to the old combination, the oxygen being displaced by carbon dioxide, again converting the substance into a carbonate which we commonly know as air-slaked lime. In this process lime loses its caustic properties, which, however, may be retained by slaking the quicklime with water, after which it is known as hydrated lime. Lime, or calcium, also occurs in several other common forms or combinations which are foreign to this question and consequently will not be here referred to.

Now the action of lime in its various forms in correcting soil acidity is not quite so easily explained, yet a full understanding of this action is not essential to a practical working knowledge of the proposition. Lime has been used for this purpose in old-world agriculture for many centuries, and until recently wherever used was applied in the form of quicklime or hydrated lime, the lime generally being slaked in the fields where applied. This practice is still followed to a very considerable extent, the lime being applied in the form of crushed or ground quicklime or hydrated lime, which is now available as a prepared commercial product. In these forms a minimum quantity of lime is required to correct soil acidity for the apparent reason that it has a greater affinity for the acids of the soil, causing the latter to be more quickly converted or neutralized. In recent years, however, the fact that limestone soils do not become acid, are generally fertile and adapted to the growing of the clovers and particularly alfalfa, has been observed by those who have sought for more light upon this proposition and carbonate of lime in the form of ground limestone has been applied to the soil in preparing it for the growing of alfalfa where this plant did not thrive readily, and surprising results are claimed for the practice. This benefit is thought to be due to both the correction of soil acidity and a replenishing of the available lime content of the soil, since the alfalfa plant is a relatively large consumer of lime as an actual plant food. Much larger quantities of lime are used, however, where it is applied in the form of calcium carbonate, as high as eight tons per acre being used by some of the pioneer investigators who are enthusiastic in their belief regarding the benefit to be derived from its use for the alfalfa crop. As marl affords practically the same substance where it occurs in a fairly pure state, it should be equally beneficial. The economy in its use would resolve itself into a question of labor versus freight charges and purchase price in securing and applying the two forms of the same substance if it is deemed desirable to use it.

Touching the relative merits of the different forms of lime for application to the soil, and the profit to be derived from each or any of them, much might be said, but unfortunately at the present time most of it would be speculation or theory rather than fact, since experimental data with regard to the benefits to be noted upon different types of Michigan soil is sadly lacking. This, like the fertilizer question, must be settled by individual experiments if absolute knowledge is desired. The most we can say is that lime will correct soil acidity, and that in some other sections of the country it has proven a most valuable agent in the preparation of the soil for the alfalfa crop, particularly the carbonate of lime when applied in liberal quantities. Whether it will do the same for us on our Michigan soils remains to be determined.

HOW ABOUT CLOVER SEED?

As our June clover is being cut the question arises as to whether we will pasture the second crop or leave it for seed. Much will depend upon whether we get rains after haying to start the growth. If so and we do not need the pasture badly I believe it will pay to leave it for seed. It is hard to buy clean seed now, and if we grow it we are sure that we will not introduce any new weeds. I can not remember when we have had to buy our clover seed, but we usually have some to sell. If the season is a fair one we should get at least a bushel to the acre, if very good we may get two, and it will have to be quite poor if we do not get a half bushel. The labor will not be great. If a buncher is used all that is needed is to turn the bunches once or twice before hulling. It is much easier and cleaner to hull from the field than to haul to the barn. S. B. H.

ALFALFA AT BUCKELL HILL FARM.

Buckell Hill Farm consists of 92 acres of rolling, variable soil, cut through with a deep ravine which makes a large portion of it unillable. Fifty-one acres are used for general farming and about three acres is orchard and garden. The remaining 38 acres are wood lot and permanent pasture. For the past six years we have been running a small dairy and have found the feed question a hard problem to solve. We have grown a great deal of corn for a small farm and paid out money enough for concentrates to have paid for another small farm. We have grown millet, and oats and peas when the hay crop has been short, and often found them very acceptable, especially the oats and peas, as they make very good cow hay. But there is the everlasting plowing and seeding for each cutting and the seed is always expensive. My nine acres cost me \$25 to seed to oats and peas and \$27 to seed to alfalfa. We cut about 20 tons of oat and pea hay and about the same of alfalfa, as reported in the Michigan Farmer last year.

This year we have had no plowing nor seeding, and have harvested about 27 tons of choice hay, and expect to get as much more at the next two cuttings. Last year we began cutting the 18th of June and finished the 24th. This year we began cutting June 3 and finished the 21st. We began the 3rd, not because it was really ready to cut, but because we were out of hay. At that time we cut about an acre, perhaps a little more. On the 13th we began again as the second crop had begun to come. Plants on that portion of the field cut June 3 now stand from 24 to 30 inches high and will be ready to cut early in July. That cut the 13th is from 12 to 18 inches high and is coming fine in spite of the dry weather. We have had no rain for the past two weeks. That cut the 21st is just beginning to look green above the stubble.

We have sown three acres more with a few oats and expect when the oats head out to cut the whole for hay, and it looks very promising, although we sowed but 36 pounds of seed on the whole piece. This is the plot which I intended to seed to alfalfa last season but did not get to it when the weather was suitable, so let it run over until this season. It was corn-stubble, well manured. We plowed it the 7th and 8th of April, worked it well and sowed the seed the 21st of May, also sowing five bushels of soil from the old alfalfa sod. I thoroughly believe in inoculation and would not dare to neglect it where I was desirous of getting a good stand. I may report later the result of this seeding. Many people laugh at the inoculation theory, but I believe it is a commonsense and practical thing to do. I have had alfalfa fail on rich, yet uninoculated soil.

I see no reason why Michigan farmers should not raise alfalfa. Once established, it is the greatest of all forage crops, corn not excepted. The leading dairy paper of America recently contained a timely and suggestive article on "Emergency Forage Crops for Drought Affected Districts," but the man who has a good field of alfalfa will have no occasion for emergency forage crops. It can be cut, if necessary, the first week in June and at least twice more during the season and no other one feed is its equal. Stock will leave their grain to eat this palatable and nourishing feed, either green or made into hay; and in connection with corn it forms almost a perfectly balanced ration. I believe it will pay every live stock farmer in Michigan to make a special effort to secure a seeding of this most excellent forage plant.

Many object to alfalfa because they have been taught that they cannot use it in their regular rotation of crops, but I cannot see it in that light. Most farmers have their meadows at least two years. My alfalfa has paid me better than any other clover or grass could have done, and I do not see why I could not plow it up next season and go on with regular rotation, with even better results than with clover and timothy.

Oakland Co. C. R. Cook.

MID-SUMMER CARE OF THE CORN CROP.

Now is the time when many farmers begin to neglect the corn crop, as they are so busy with the hay, wheat and oats. Of course, we must sometimes neglect something for a time, but we should have in mind to get at it as soon as possible, and if there is a will a way will work out sooner or later. One farmer made the remark that it was not necessary to get up very early during haying for they

could not work at the hay when the dew was on. Then why not work at the corn? We usually put in at least half of the forenoons during haying in working our cultivated crops. If the hay is bunched up we can get at it by the middle of the forenoon and sometimes in the morning if there is little dew. If there is much dew all hands go at something else, and considerable can be accomplished in a few golden morning hours, besides the change of work will make it easier for the men. I have known men to hire for haying and let the help idle forenoons, or when it was too wet to haul hay, although there was plenty of other work that needed doing. Why not hire the men steadily at such times and let them work at something else, for instance cultivating or hoeing when the hay is not ready to go in, even if haying wages have to be paid? Most men, if engaged early enough, will work for ordinary wages at these times to get steady work and charge haying or harvest wages only when working at haying or harvest.

But to come back to the corn field this is just the time that it needs the best of care. The drouths are likely to come at any time, and the fields should never be left long with a hard crust to evaporate tons of moisture daily. It is also the time when the corn is getting high enough so we can take off the shields and cover or root out most of the weeds, and it is the best time to use the hoe to get out the rest.

If June grass or any of the weed pests are abundant it will pay to get thistle shovels, or sweeps, which run just beneath the ground and cut everything in their path. Ordinary shovels often slide by these weeds when they get large, and it takes considerable work to control June grass unless it is quite dry.

We have gone over our corn fields four times (July 5) and will go over them at least four times more. This amount of cultivating will, under ordinary conditions, keep a fair dust mulch on the ground at all times, and control the weeds and grass. As the corn gets larger we shall cultivate more shallow and not cut as close to the hill so as not to injure the roots which are forming there.

Of course, some farmers grow a good crop of corn by "laying it by" in July, but I believe it is safer to cultivate later as an insurance against drouth injury as well as against the weeds which sap the vitality which should go to the corn at this time. The amount of work necessary to do on the corn field will, of course, vary with the season and the soil, some seasons and some soils requiring more work than others. We can tell something about the soil but we can not predict the season, so it seems to me that the safest policy is to keep a dust mulch on the field at all times as a partial preparation for and insurance against drouth.

Calhoun Co. S. B. H.

WEIGHTS FOR HAY CAPS—WHEN TO CUT PEAS AND OATS FOR HAY.

I would like to know what Mr. Lillie uses for weights on his hay caps? Also at what stage of growth to cut and cure oats and peas for hay?

Saginaw Co. D. O. B.

For weights on my caps I use ½ blank iron burrs. You can buy these blank burrs by the keg, 100 lbs. in a keg. At first I used ¾-inch burrs but these were not heavy enough. The wind would blow the caps and I had to use two of them at each corner of the cap. Afterward when I purchased the second batch I got ½ burrs which answered the purpose very well.

When I make some more, as I intend to soon, however, I shall not use these iron burrs for weights. They are too expensive. Somebody writing in The Farmer about a year ago had the right idea of this. He said he used cement weights. I had thought of using cement weights but the thing of it was to get molds that would be practical. I thought of boring holes in a two-inch plank and then filling these with cement, and almost every other conceivable way, but finally I discarded all of them as impracticable. It would cost too much to make the molds. This man, however, hit upon the idea of using common pasteboard egg fillers, filling them with cement and then taking wire staples and sticking these down into the cement before it set. A cement weight of these dimensions weighs about a quarter of a pound, which is a better weight for a hay cap than a ½ burr and will not cost anywhere near as much. You can get fillers for a thirty-dozen egg crate for about a shilling or 15 cents, consequently the cost of the molds would only be a mere trifle and the labor in making these would be slight. All one would have to

do would be to mix the cement rather thin, pour it into the egg fillers, put in the wire staples and leave it until set. The egg fillers would be so tender from the moisture which they absorb from the cement that they could be easily taken off without any trouble.

When to Cut Peas and Oats for Hay.

This crop, when intended for hay, should be cut when the oats are in the milk, before any berry is formed and the peas should be so small, or so immature that when the cock dried the peas will not shell. As a matter of fact, they ought to be cut before the peas are really formed in the pod, or when they are just commencing to form, because if you leave it any later the pods will dry and become hard and will not make good hay. If you can cut it when the peas and oats are both in blossom this would be the ideal time for cutting it and curing it, just as you would clover hay.

Colon C. Lillie.

ALFALFA IN WAYNE COUNTY.

I have noticed that you have been publishing articles on "Alfalfa in Michigan." The picture from which the first page cut was made was taken while they were cutting the crop of alfalfa on the E. M. Starkweather farm in 1909. The seed was sown four years ago on an uneven gravelly field of ten acres. Some culture was used. It is claimed that there is a good deal of lime in the soil. The crops of hay have been abundant and the alfalfa is still growing vigorously.

Wayne Co. N. A. Clapp.

SOWING CLOVER SEED IN AUGUST.

A reliable Allegan county farmer gave me this method of sowing clover in August: "Prepare the ground thoroughly in July. Don't sow in a drouth, but if the ground is not moist enough wait for the first rain in August. Then sow the seed with the addition of one bushel of clean oats to the acre, cover with a light spike-tooth harrow. The oats will protect the clover through the winter and will be out of the way in the spring. I have had such perfect success with this plan that I would unhesitatingly recommend it to J. F. G. to try with his alfalfa."

Van Buren Co.

NAME THE FIELDS.

Farmers generally have names for their horses and sometimes for the cattle, but they are few and far between that have the fields of their farm named by appropriate callings that will specify one field from another. It is an excellent idea to plan it out while doing the farm work, and give each field some appropriate name.

A name will suggest itself for each field, and it is well to let some particular characteristic of the field suggest its name. This will help one to remember the names and avoid any confusion as to which field is meant when spoken of by its name. For example, if one field is at the extreme south end of the farm, a suitable name would be "Southfield;" again, if one sloped in any direction it might be called "North Slope;" if a tree was in the field, it might be called "Oak Lot," or whatever the tree chanced to be. There are dozens and dozens of names, and one will have no difficulty in getting appropriate and distinguishing names for all the fields. These suggested are some the writer has used for the fields of his farm.

Another excellent practice after the fields are named, is to carry a small note or memorandum book and pencil in the pocket. Place the name of each field on as many different pages in the book, allowing each field a page, and place the name of the field on the top line and number of acres right after the name. Whenever any work is done on the farm make a note of it in the book, charging it to the field on which the work is done. Continue this throughout the year and debit the work done on the field, in preparing the soil, planting, cultivating and harvesting the crop, at the rate of at least 30 cents per hour for man and team. This will give one an idea of the value of the time spent on the field and be valuable for reference. Each field should also be charged with the value of the seed planted, fertilizer used and whatever other expense is necessary. At the end of the year it will be a simple matter to figure up just what each crop has cost to produce. If the sale of it, or its market value exceeds the total charges, it has been grown at a profit, and if less, at a loss.

Pennsylvania. L. J. Haynes.

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LIVE STOCK

SELECTING THE RAM.

So much has been said and written on this subject that it is practically worn threadbare, and no more ought to be necessary. But unfortunately the good advice which has been given from year to year has not been so generally heeded as to make it unnecessary to comment further upon this important subject because of its correct solution by the average sheep owner or at least by the majority of such owners. Far too many sheep owners still follow the practice of securing a ram of fair appearance but with little pretensions to good breeding because such a ram can always be picked up cheaply in almost any community. It is the purpose of this article to show that this is always a mistake and the poorest kind of policy for even the small flock owner. Far too many farmers still reason that because their ewes are only grades it will not pay them to invest in a pure-bred ram for use on them. They do not stop to think of the undoubted fact that the pure-bred sire is certain to give better results as a breeder for use on grade flocks than the grade sire of equal or even superior individual merit, since he is certain to have a greater prepotency and will for this reason get lambs of more uniform type and better average quality. As the sire is half the flock in the sense of his influence upon the lamb crop the few extra dollars required to purchase a pure-bred animal of the breed which may be favored by any sheep owner is a small consideration as compared to even a slight improvement in the lamb crop. Nor is the added investment an item which can properly be charged entirely to the lamb crops which the pure-bred sire may produce, since, when through with him he will surely bring a better price than will the grade. On this point some readers will probably disagree with the writer, since many farmers feel that they can get no more for a pure-bred sire than for a grade, not having the reputation which is enjoyed by the breeder of pure-bred sheep to aid them in securing a fair price for such an animal. Granted that there is some truth in this contention, still there is no question but that any farmer can secure a better price for a pure-bred ram that has proven his value as a sire in his flock than he could for a grade ram of even equal individual merit. The power of example is recognized as one of the best educators along any line, and one's neighbors are not generally slow in recognizing the fact when an improvement is to be noted in the character of the lambs produced on our farms any more than in the character of the crops we grow. But even if those who are in the habit of using grade sires do not recognize the superior merit of a pure-bred animal to an extent which will induce them to pay a fair price for one that has proven its worth in our flocks, we can always find someone who does recognize such superiority and who uses pure-bred rams with whom we can make an exchange and thus, prolong the productive period of the original investment in the benefit on our own flocks.

Of course, such results will not usually come about without a little attention on our part, but they can practically always be brought about by the use of a little business intelligence and foresight. Indeed, plans may be laid from the start to this end, if two or more neighboring sheep owners purchase pure-bred rams for use in their flocks at the same time with the intention of changing them when the limit of their usefulness to the original purchasers has been reached. In this event the character of the ewes in the two flocks should be similar and the rams purchased should be of similar type and individual merit, as it is nearly as great a mistake to use a pure-bred ram not suited in type to the ewes on which he will be used as to use a grade ram, although even under these conditions the pure-bred ram would be preferable.

Points to Consider in Selecting the Ram.

This brings us to the point of the selection of the ram. Of course, the type or breed of ram which is selected should depend to no small degree on the disposition which is to be made of the lamb crop. Where the lambs are to be used as feeders and none of them retained in the breeding flock, a more violent cross is permissible and in line with good practice than where the opposite is true. For instance, in the beginning of the lamb feeding industry of this state there were

many flocks of grade Merino ewes on the farms of the state. These were crossed with rams of the middlewool and mutton breeds with the very best results. The lambs produced in this way made very profitable feeders, and so long as the ewe flocks lasted this method of breeding produced very profitable results. But when the ewe flocks needed to be replenished, those who did not use a Merino ram to produce lambs for this purpose soon realized their mistake, through the lack of uniformity and generally poor shearing qualities of the produce of the cross-bred ewes, even when bred to pure-bred rams, to say nothing of the results where grade rams were used upon these cross-bred ewes. Western range lambs have retained their popularity as feeders largely because of their cross-bred character, but western ranchmen have, as a class, more generally recognized and followed correct principles of breeding than have the farmers of the middle states who keep sheep and have continued to produce what the market would take at the best price, sparing neither trouble or expense in securing pure-bred rams suited to their purpose in this regard. The west is recognized as the best market for pure-bred rams of nearly all breeds and breeders have been able to sell to western range owners in quantities at as good or better prices than they have been able to get from Michigan breeders for single animals, with the result that the cream of Michigan bred rams have quite generally found a market in the west, while Michigan sheep breeders have contented themselves with a cheaper and poorer grade of rams. This is not as it should be, and it is high time that Michigan sheep breeders, and even the smaller breeders of sheep for market purposes awoke to the fact that the best in the way of rams is none too good for them and that it will pay them in dollars and cents to have the best.

Desirable Characteristics in the Ram.

In this connection, let us consider for a moment what characteristics a ram should have to be suitable for use on the flock of good grade ewes, where the ewe lambs are to be retained in the flock for breeders. In the first place, he should be of similar type to the ewes. That is, if the ewes are of the middle wool class, the ram should be of the same class. If the ewes are of the coarse wool type, a ram should be selected from one of the coarse wool breeds, and if the ewes are of the fine wool type a ram should be selected which will not be a violent cross. Within these limitations, the sheep owner may profitably exercise his preference and taste in the selection of a ram, but whatever breed is chosen to represent the type to which the sheep owner desires to work should be adhered to. It is never profitable to keep changing from rams of one breed to those of another, as such methods of breeding will never lead to improvement of the flock, but rather to the reverse of this desirable end. In the selection of the individual, the owner of a grade flock does not need to pay as close attention to the fine points of breed type as does the breeder of pure-bred sheep, but in all other respects the ram selected should be an outstanding individual. He should be essentially masculine without being coarse. He should have a broad and well-muscled back, large heart girth to give an abundance of room to the vital organs. He should stand squarely on his feet, with front legs well apart and with a well developed "ham." He should be well covered with a good fleece of at least fair weight and a uniform quality and length of fiber, and he should possess a certain style of carriage and prompt, free action when moving which impresses one with his vigor and stamina. Given these qualities, with good length and depth and that even covering of flesh which makes for symmetry of form and quality of carcass, with plenty of bone to carry it, we may be satisfied that if the ram has the average prepotency of the pure-bred, the results secured from mating him with ewes having these same desirable characteristics in some degree at least will be satisfactory and in the line of improvement. Too many farmers sacrifice quality for mere size in the selection of a ram. While good size is a desirable attribute, it should never be given preference to good quality, where both can not be had in the same animal.

Another word as to type. Too many sheep breeders seem to have the idea that all that is necessary is to select a breed and that the animals of that breed will be of sufficiently uniform type to make further care in their selection unnecessary. Nothing can be further from the truth. While the improved breeds are



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infinitely more uniform in type than animals of mixed breeding, yet different families and flocks show different characteristics which are largely the reflection of the ideals of their breeders, and the different classes as noted above show still further variations. For instance, the different families of the class designated as fine wools show a variety in fleece and form which is very wide in its range, and the same is true in a somewhat lesser degree of the other breeds and classes mentioned. But the essential thing is for the sheep owner to determine in his own mind what type he wishes to work for and then make his selections of rams persistently and consistently along that line. The time is right at hand when the sheep feeders of this section of the country will have to produce a far greater proportion of their own feeding lambs, and the sooner they commence to do this along well thought out lines and in a systematic manner the sooner they will place this important industry on a more satisfactory and permanently profitable basis.

THE CALF'S FIRST YEAR.

The first year of the calf's life is the period upon which depends the question of whether he is to be a source of profit to his breeder and owner or not. If he is kept growing continuously and vigorously from the start the first recurrence of his birthday will find him well on the road toward a marketable age and condition. As managed on the average farm, however, this is not generally the case. This is largely because the average farmer does not make a specialty of beef production. The raising of calves and their development to a marketable age is a side issue to him, and too little attention is paid to this branch of the business to make it a source of profit upon the average farm. Then, too, the average farmer is not in sufficiently close touch with his branch of production to realize the great change which has come about in recent years. He does not appreciate the fact that it is the young, quickly grown and early matured animal that is most sought in the market, and that furnishes the greatest proportion of "market toppers" in all but a few special seasons in the year when there is a special demand for the heavy cuts of beef that formerly sold at a premium at all times. However, it is a fact that this is the age of baby beef, when the properly matured yearling is a close competitor with his older contemporary for market honors, and sadly distances him from the standpoint of profit to the producer. But this class of beef can be produced only by the use of proper methods of feeding and care from the start, and such methods are just as easy and generally more effective on the small farm where but a few calves are produced as upon a larger scale.

Granted that the calf has been well started and has had an abundance of good pasture with his regular allowance of skim-milk during that portion of the season which has already passed, the most critical period of its development is now just at hand. If the calf has been properly fed up to the present time he has, of course, had some supplementary grain feed with his milk to replace the fat taken from the milk in the form of cream, but if that is not the case this deficiency should be no longer neglected. The best source of this necessary fat is flaxseed meal made into a jelly and fed with the milk when the calf is young, as has been often described in the Michigan Farmer. But if the calf has reached several weeks or months in age and has not had the advantage of this early feeding, that is no reason why the deficiency should not be supplied from this time on. In that case, some corn meal fed in connection with or separately from the milk will answer every purpose, as the two make a well balanced feed, and the addition of a little sifted oat meal or even the use of corn and oats ground together will make the feed more palatable and better relished by the calf and will consequently produce better results, as the element of palatability is a greater factor in the efficiency of a ration than is generally recognized. Begin this ration in a small way, of course, at first, and increase it gradually, but don't be afraid of over-feeding the calf where the ration is gradually increased in this way, as it will be profitable to feed all that he can digest and assimilate.

But this part of the calf's ration is not the only thing which needs attention at this time. It is just as important that a good quality of roughage should be supplied, and where the pastures are poor this may be best supplied in the form of

good, bright, early-cut clover hay in the stable, or better yet by the feeding of some green soiling crop in the shady pasture. But plenty of pure fresh water should be provided in any event, as with the additional feed which the calf will eat when he gets a little age will render the small amount of liquid provided in the form of skim-milk inadequate for his needs.

Once the calf is well started toward an early and profitable marketable maturity by this liberal method of feeding and good care at this season of the year, there is little need of advising with regard to his future feeding and care, as the owner's good sense will tell him that it will pay to continue to feed and care for him well. It will, however, be a matter of surprise on the part of the farmer who has never given special attention to the growing calves to note the difference in their growth and development which a little extra care and feed will produce in them as compared with the calf that is obliged to shift for itself with the exception of the small feed of milk which it gets. The difference is simply the cost of keeping the calf an extra year where the careless or indifferent method is used, and a further difference in the price per pound which may be secured for him when finally marketed, a difference which is all in favor of the calf that is sufficiently well fed and well cared for from the start to be properly classed as "baby beef" in its matured yearling form.

MATURING THE HOG CROP.

In studying the market reports which appear in the Michigan Farmer from week to week, the thoughtful observer cannot but be impressed with the difference in the average weight of hogs received at the Chicago and Detroit markets. In the Chicago market report appearing in the last issue the statement is made that the average weight of recent receipts had been 242 lbs., in comparison with 222 lbs. a year ago, 216 lbs. two years ago and 235 lbs. three years ago. The sales reported in the Detroit market in the same issue show but one lot weighing as much as 200 lbs., while the average weight of the offerings would fall considerably below that mark. A review of the files of The Farmer for recent years shows much the same discrepancy in the market weight of the hogs sold in Detroit as compared with those marketed in Chicago, which reflects the conditions which obtain at the other big markets of the country.

The writer has thought perhaps that some benefit might be derived from a careful study and comparison of these figures, for which reason he has called attention to them at this time. It is true that the light hogs are just the kind that are in demand at this season of the year, as they are suitable for use in the fresh meat trade, and packers do not care to lay in a heavy stock of the thick kind at this season of the year, and the light average weight of the hogs marketed in the Detroit market has served to prevent the wide spread in prices which obtain at the larger markets. Yet the question still remains whether the Michigan hog feeder could not profitably feed his hogs to a better average weight under present conditions than the weights reported for Detroit indicate him to be doing. There would seem to be no danger of any marked decline in the price of pork for some weeks to come, and in fact not until the spring pig crop begins to come in, which it will hardly do to any considerable extent until the corn crop matures. In this case it would seem to be an evidence of good judgment on the part of the Michigan hog feeder to market his available hog supply at a little better weight than has been the case in recent weeks. The cost of gains up to 200 lbs. in weight at least are certainly well under the market price at present, even where the grain must be purchased, and hogs of that weight will not be discriminated against in price to any extent in a season of short receipts such as exists at present and is likely to prevail for the next two months at least. At the same time the spring pig crop should be kept growing rapidly, so that these pigs may be brought to about the same weight before sold, as there will undoubtedly be free marketing of light hogs later in the season which will cause a spread in prices the other way and place these better weights at a premium. All things considered, it would certainly appear to the writer to be the part of wisdom for the average Michigan farmer to keep the pigs growing as rapidly as possible, until they approximate the 200 lb. mark before sending them to market.

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LIVE STOCK NOTES.

It is stated on good authority that the marketing of Oklahoma and Kansas grass cattle will be from 10 to 15 per cent heavier than that of a year ago.

Texas two-year-old cattle are being shipped to northwestern Canada. In a recent week 27 car loads were shipped. Cattle are selling at high prices over in Canada, as well as in this country. Improvement is hardly expected until along in October or November, when the autumn activity starts up. Neither is there much doing in leather, and tanners are well supplied with hides.

The Chicago hog trade is a marvel. One day the packers stand off and refuse to buy, while the following day they buy with great freedom. They have been anxious to place the market on a lower level, but as a rule breaks in prices have been followed by small receipts.

Opening sales of California range feeding lambs at Chicago were at \$6.75 per 100 lbs., an unusually high price for June. They averaged 63 lbs. Opening sales of the best California mutton lambs were at \$7.25@7.85, their weights running from 67 to 69 lbs. Last year the first range feeding lambs were from Idaho and showed up in July. They averaged 58 lbs. and sold at \$6.40.

"We are afraid to put heavy hog products away in our cellars at these prices," says a Chicago packer. "Light stuff goes into bacon that finds a less speculative and less mercurial market, and a larger percentage of a light hog can be put into fresh meat channels. The part that must be cured is susceptible of a short process, while the heavy cuts consume more time in preparation for trade channels. By the time the product of these big hogs has been cured the market may be a dollar lower, and it is a big chance to take."

Pork has been wholesaling at Chicago about \$3.70 per barrel higher than a year ago, with lard, bacon, hams, etc., showing similar advances, yet the consumption of cured hog products continues very large throughout the country. There is also a good demand for fresh pork, which is cheaper than it was several weeks ago, and it is cheaper than other meats.

The recent reduction in prices for the cheaper cuts of beef announced by the packers was found necessary to stimulate consumption of the common to medium carcasses, the choicer lines of beef being advanced at the same time. As is generally known, there has been a great increase in the marketing of grass-fed cattle and a corresponding decrease in supplies of fat, long-fed cattle.

The collapse in prices in Chicago and other western markets in recent weeks enabled buyers of stocker and feeder cattle to pick up some rare bargains, but burned-up pastures caused by the dry weather forced many farmers to stay out of the market. Careful feeders of cattle are likely to come out well ahead, provided they buy at the right time and do not purchase inferior cattle. Many stockmen have assumed great risks this year by paying extremely high prices. It is safer to wait for the breaks in prices and to have buying orders placed with first-class live stock commissions, with instructions to buy when values reach a certain level.

Oklahoma and Texas cattle shippers have been reporting very dry grass, and this explains in great part the recent free marketing of grass cattle from the southwestern pastures, taxing railroad carrying facilities in some instances. Similar conditions have been reported in parts of Iowa, Wisconsin, Minnesota and South Dakota, and ranchmen in Montana and South Dakota have been showing anxiety, fearing that the drought would compel them to ship their cattle and sheep prematurely.

Consignments of wool are still being made to the Chicago market, with a poor outlook for a break in the dullness that has kept business practically at a standstill for several weeks. Tub-washed wools are wholesaling at 20 to 35 cents per pound and unwashed lots at 14 to 23 cents. Boston advices state that buyers continue to make prices in that market, although there is a slightly better demand for some grades. In all parts of the west there is a slow movement of the new clip.

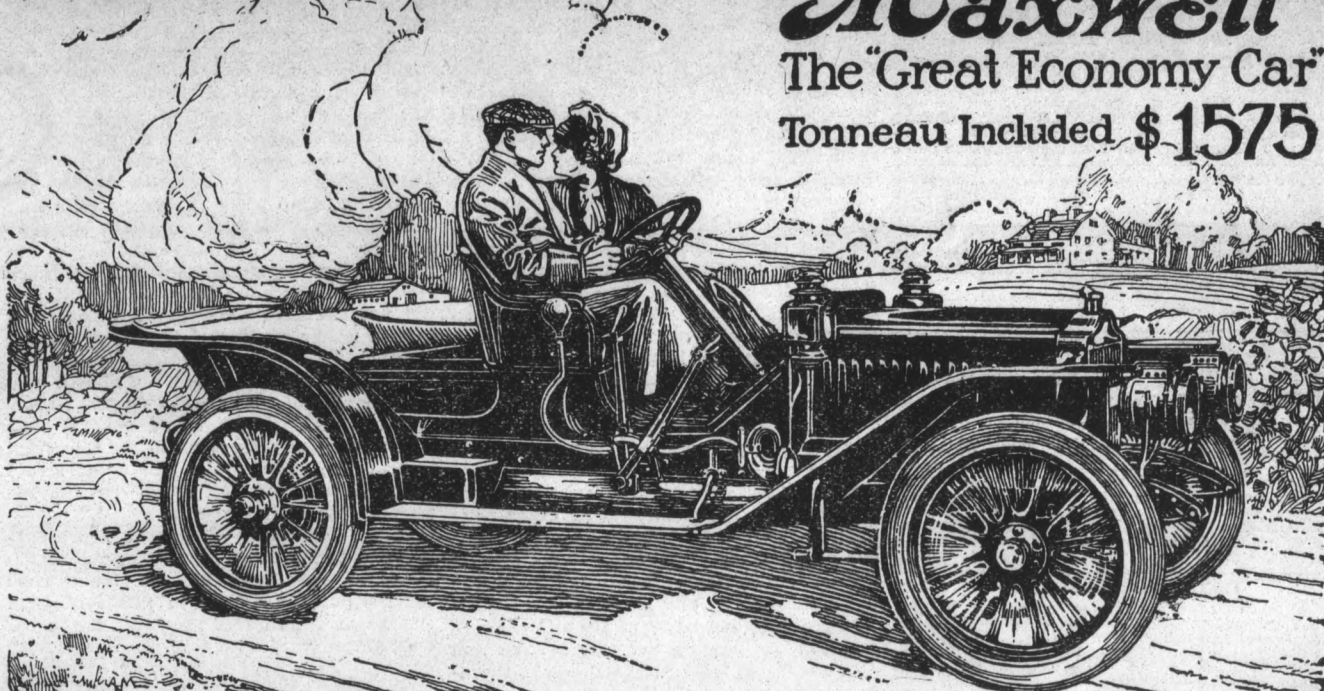
The sheep and yearlings that have been marketed at Chicago recently from Oregon and other ranges were only fair in flesh and sold at rather low prices, the poorer ones being attractive to feeders at the low figures that were asked. This branch of the sheep market has been rather slack in recent weeks, however, and a good many buying orders for feeders have been cancelled on account of the dry weather, pasturage in many places having been greatly injured. For farmers with plenty of grass this is a favorable time to buy feeders, both sheep and lambs.

While wool is selling in the United States from five to six cents a pound lower than a year ago, prices are two to three cents higher in London than then. There is a fair demand for breeding ewes in the Chicago market, and it is a first-rate time to buy when good young ewes can be had for \$4.50@5 per 100 lbs.

A purchase was made in the Chicago market a short time ago of a consignment of horses to export to South America, and if the venture turns out satisfactorily, other exports will follow. The horses were serviceable medium weight chunks suitable for farm and general-purpose service, and they cost from \$150 @200.

Corn in farming sections is abundant, while hogs are scarce, and owners have a powerful incentive to make their hogs fat and heavy. Corn is made to realize fully \$1.25 per bushel when marketed as pork, and it is easy to see why the summer marketings are carrying more weight than they ever did before. The result is that the big hog markets of the country are affording little material for the high-price trade, such as light breakfast bacon, while there is an abundance of heavy meats such as the south uses and such as satisfies the cheap northern trade. Farmers are holding on to their pigs as they never were known to do in the past, and extremely few are seen in

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The sales of Maxwell 5-Passenger, 30 H. P. Touring Cars and Maxwell 12 H. P. Runabouts have been enormous, yet a number of farmers write me that they want a car with detachable Tonneau. As a result of these many requests, I have built a car especially to fill your needs—(shown above with tonneau detached). It is a big, handsome, 30 H. P., 2-Passenger Roadster that can be changed in three minutes into a smart, stylish 4-Passenger Touring Car. With Tonneau off, there is ample carrying space on the rear platform. When the wife or family want an outing, on the Tonneau goes in a jiffy. If you could have a car built specially for you, wouldn't it be just such a one?

A STYLISH CAR

The picture of the car speaks for it. Here is an automobile that the wealthiest man is proud to own. Note the long Wheel-base (110 inches) and big wheels and tires (34 x 4 inches). Men who have formerly owned only the highest priced cars, costing \$3,000 or \$4,000, find in this MAXWELL at \$1,575 the same power, reliability and style at less than half the cost of up-keep. I want to emphasize particularly the matter of style, because many cars made with detachable tonneau have such a cheap, dinky look, that their owners feel like apologizing. You must see this car to appreciate it—you must ride in it to realize its strength, power, ease of control and extreme simplicity.

SALE OF MAXWELLS TO DATE

Sold to May 31, '10	- - - 29,545
Sold during June, '10	- - - 2,243
Maxwells in use today	- - - 31,788

WATCH THE FIGURES GROW

We operate 4 great factories, 16 branch houses and have 800 dealers. We will give you the name of the nearest dealer.

Maxwell-Briscoe Motor Co.

Fig St., Tarrytown, N. Y.

Licensed under Selden Patent—Members A. L. A. M.

LOW COST OF UP-KEEP

MAXWELL CARS cost their owners less to maintain than any other car in the world, regardless of price. We were the first manufacturers to come out and give you the actual figures showing the exact cost of maintenance. Last year we said of our big 5-Passenger Touring Car—"This big car can be run 5,000 miles a year at an average total cost of \$3.98 a week." Understand, these figures include gasoline, oil, grease, repairs and tire cost. This model costs even less to run, because it is lighter than our Touring Car, and light weight, coupled with great strength, is what makes an automobile economical to use.

ASK FOR THE FIGURES

If you did not see our recent announcement showing in exact figures—just how little it costs to run the MAXWELL 5-Passenger Touring Car 5,000 miles a year, write me and I will send you a poster in natural colors, giving these figures in itemized form. The shrewd farmer who wants to know what his car is going to cost him to run after he buys it, should have this information. Remember, we are the only makers who come out and give you the AVERAGE TOTAL COST.

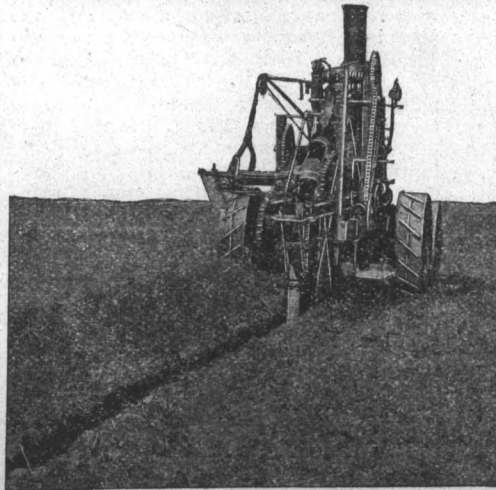
THESE BOOKS FREE

I want to send, without cost to you, a lot of valuable information about automobiles. I want you to have our latest catalogue—fully illustrated. Also copies of "How to Judge an Automobile" and the "Co-Operator," a newsy magazine, together with "The World's Record Booklet." Now, while it is fresh in your mind, mail this coupon or drop me a postal. Simply say "MAIL BOOKS."

J. S. Maxwell President.

NAME.....
ADDRESS.....
Maxwell-Briscoe Motor Co.
Fig St., Tarrytown, N. Y.
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MAIL BOOKS

F. P.

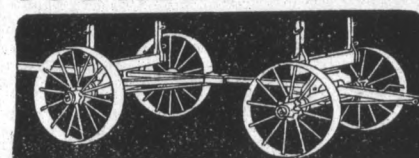
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BUCKEYE TRACTION DITCHERS.

Place your order NOW, then contract for your neighbors' work and you will take the first step toward earning a large income this season. Remember the first man in your vicinity to buy a BUCKEYE will be the one who gets the biggest profits.

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SALES DEPARTMENT
The Buckeye Traction Ditcher Co.,
FINDLAY, OHIO.

YOU NEED IT NOW!**ELECTRIC HANDY WAGON**
With Low Steel Wheels

THE wagon for a thousand farm jobs. Low, handy and strong. Saves high lifting, saves strength, saves horses. Broad tires, no ruts. Get it now for summer and fall hauling. We are ready to ship, 20 styles. Free book tells all. Also separate Electric Steel Wheels for old running gears, guaranteed to fit. Don't wait; the busy hauling season is on. Send for the book.

ELECTRIC WHEEL CO., Box 35, Quincy, Ill.

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The Michigan Farmer

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The Lawrence Pub. Co.,
Detroit, Mich.

DETROIT, JULY 16, 1910.

25 CENTS TO NEW SUBSCRIBERS.

We will send the Michigan Farmer to new subscribers to November 1, 1910, including one of our farmers' pocket account books of 72 pages, all properly ruled under headings, such as daily egg record, hired help, individual account, cash paid out, cash received, etc., also instructions how to keep accounts, also other general information, and 1910 calendar. The Michigan Farmer to Nov. 1, 1910, and account book sent postage paid for only 25c, or the Michigan Farmer to November 1, 1911, and a two-bladed, razor steel, brass-lined knife, worth 75 cents, postage paid, for only \$1.00. Order through agents or send direct to this office.

CURRENT COMMENT.

Several inquiries have recently been received touching the law requiring the cutting of noxious weeds and brush and its enforcement. This law was changed and strengthened at the last session of the legislature when the highway laws of the state were revised and re-enacted. The law as it at present stands makes it obligatory on the part of commissioners and overseers of highways to enforce its provisions so far as the cutting of weeds and brush is concerned, and provides a penalty for them for its non-enforcement. So far as the cutting of brush in the highway is concerned, the law clearly makes it the duty of the commissioner and overseers of highways to cut or cause to be cut, prior to the first day of July in any year, all brush within the limits of the highways under their jurisdiction, with the proviso that the law shall in no way apply to young trees which have been set out or preserved by abutting property owners for shade or other purposes. While there is reference in other sections of the law to the refusal of property owners to cut the brush along the highways through or adjacent to their property, yet there would seem to be some question as to the authority of the commissioner to compel the property owner to cut these brush without compensation, although this is a point that will have to be determined by future interpretations of the law.

There is, however, no ambiguity in the sections referring to and making it the

duty of land owners to cut and destroy the noxious weeds, not only in the highway, but in the fields as well. This they are required by the law to do on or before the first day of July, and again on or before the first day of September in each year, and, failing in this duty, it is made the duty of the highway officers to cut them or cause them to be cut, and the law further provides that the cost of such work, together with 10 per cent additional, shall become a charge against the property to be levied and collected, as all other taxes are levied and collected for the reimbursement of the township.

This law is being enforced in many sections of the state, and should be enforced everywhere. Undoubtedly it will be so enforced as soon as the careful farmers who are trying to keep the weed pests in subjection become sufficiently familiar with it to realize its benefits, since they can easily make trouble and expense for highway officers who do not enforce it. This law especially provides for such cutting of "all Canada thistles, milkweed, wild carrots, oxeye daisies, or other noxious weeds," and applies to "every owner, possessor or occupier of land or any person or persons, firm or corporation having charge of any lands in this state," and provides a penalty of \$10 and costs in addition to paying the cost of cutting the weeds, with 10 per cent added thereto as above noted. The penalty which applies to highway officers for non-enforcement of the law is a fine of not less than \$10 and not more than \$25, together with the costs of prosecution, or by imprisonment in the county jail for a period not exceeding 30 days, or by both such fine imprisonment in the discretion of the court. These penalties will, without doubt, serve to bring about the enforcement of this law in a fairly efficient manner with the undoubted effect that the eradication of such weed pests by the careful farmer will become a much more simple matter than it was under the old conditions, when it was impossible to prevent a careless neighbor from permitting them to seed just over the fence or to the windward, which made efforts toward their eradication of little avail. For obvious reasons this law should be willingly observed by every farmer, since its general enforcement will simplify the solution of one of the serious problems affecting the future of our agriculture.

THE "BETTER FARMING" SPECIAL TRAIN.

The Better Farming Special Train which was run from Bay City to Cheboygan, returned over another road and then made a side trip west as far as Clare, from June 27 to July 2, inclusive, which was briefly described in the last issue, made a most successful trip.

The train itself consisted of three baggage cars containing exhibits. One baggage car made a specialty of dairy utensils, separators, butter workers, cow stanchions, and everything of that sort. Another car made a specialty of farm crops, especially of the clovers which are best adapted to that portion of the state. The other car was a live stock special, containing species of the different breeds of sheep and poultry. All along the route the people showed great interest in the exhibits. The train arrived at a station and remained for one hour. About 40 minutes of this hour was devoted to short talks on various farm topics by different members of the party. The balance of the hour was taken up in discussing the exhibits. There were so many different subjects to be discussed that very little time could be given to any one particular feature and this, in a way was a handicap, because a man cannot say very much on any subject in four or five minutes. Yet it was wonderful the amount of good, practical advice that was given in these talks in that length of time. Prof. Taft, of M. A. C., discussed spraying. As this country at the present time is taking much interest in fruit growing, this was a very timely topic and no one knows better how to discuss this subject in all of its different phases than Prof. Taft. Prof. Brown gave a talk on feeding sheep. He spoke of the necessity of sheep in a new country in clearing the land, and then their benefit to the soil. Not only this but there are acres of pasture going to waste in this section of the state that could be utilized by sheep. Prof. Liverance is instructor of dairying at M. A. C., and, of course, confined his talk to this phase of farming. He advised better cows and more of them. He advised weighing the milk of each cow and testing it occasionally so that one knows the quality of the cow that is being kept. He said much money was lost by dairy

farmers because they did not select out the unprofitable cow. Prof. Kempster talked on poultry, he being instructor in poultry and having charge of the poultry branch of M. A. C. His advice was practical. There isn't any question but what the farmers not only in that section of the state, but in every other section of the state, do not give this phase of agriculture as much attention as they ought to. It was stated that the profits in poultry, taking into consideration the investment, were probably larger than any other phase of farming, and that one reason why people did not appreciate farm poultry was because they did not keep track of the receipts from their flock, and did not estimate the cost of maintaining it. In other words, they knew nothing about it.

Prof. Shoemith talked on alfalfa and said that all of that section ought to grow alfalfa and if people would take a little pains in making preparation for this crop, it could be grown. He put great stress on the inoculation of the soil and the application of lime.

Profs. Smith and McDonald, representing the Department of Agriculture of the United States, have devoted much time for the past two years in this section of the state examining the soil, the crops and different methods of farming. Both of them gave very interesting and practical talks. Prof. McDonald said that they found on careful investigation that this section of the state contained some of the very best soil, not only in this state, but in any state. It contained other soils that were fairly good, and he was sorry to say that it contained some soils that were none too good. The best soils would grow alfalfa at once. The next best soil would grow clover and then after a crop of clover one could get a crop of alfalfa. The poorest soil must be seeded first to sand vetch. This plant would grow on the lightest soils in that country and after sand vetch has been raised and a crop or two plowed under, the land then was in condition so that clover could be grown and after clover alfalfa could be grown. Then profitable crops could be raised that were adapted to that soil and climate. He put great stress upon raising leguminous crops and keeping that sandy soil filled full of humus. Organic matter in the soil enabled the soil to retain more moisture and carry it through dry spells. Prof. Smith not only talked on leguminous plants, especially putting stress on sand lucerne for the very poorest land, but he also gave a very interesting and instructive talk on potato growing. He said one reason why Michigan did not have a larger average yield of potatoes was because no rotation of crops was used in connection with the potato crop. Potatoes are grown on a piece of land continually until it would grow potatoes no longer. The state of Maine, however, had a rotation of crops, consisting of clover, potatoes and oats. The clover is used to furnish humus or vegetable matter to the soil. Oats were used as a seeding crop for the clover, and then for extra plant food, heavy applications of commercial fertilizer were used. He did not particularly recommend commercial fertilizers because he said he did not know as people were ready for their use and he advised the keeping of live stock to supply plant food as much as possible.

Governor Warner, who was with the train for four days, confined his talk almost entirely to dairying. The governor is an enthusiastic dairyman, as everyone knows, and loves to talk to farmers on this subject and from all appearances the farmers like to hear him. The governor apparently enjoyed this trip hugely.

Dairy and Food Commissioner Lillie, who was with the train for two days, talked on dairying. He confined himself almost exclusively to dairying as a business for that part of the state. His idea was that farmers there ought to keep cows enough so that the income from the cows would pay the entire running expenses of the farm. Then, if they wished to grow potatoes and fruit, well and good, but dairying could be depended upon. It is reliable and a cash business, consequently would make the farmers more thrifty and more independent. He believed, in going into the business before the soil had been depleted of its virgin fertility, also that in going into dairying special purpose dairy breeds should be used. His idea was to purchase dairy sires and raise heifer calves from the native cows for the future dairy cow of that vicinity.

This "Better Farming" special was well patronized by the farmers along the entire route. The smallest meeting crowded one of the large coaches. At several

places it took three coaches to hold the people. Much interest was manifest on every hand.

HAPPENINGS OF THE WEEK.

National.

Millers in the southwest who have been bleaching flour by the use of nitrogen peroxide were held to be adulterating the product, according to the findings of the federal court after five weeks of taking testimony and submitting arguments at Kansas City. The adulteration is not permitted under the pure food and drug law and, if the findings are sustained by the higher courts, the practice will have to be discontinued.

An application has been made to the secretary of the state of Missouri for permission to engage in the business of patenting, manufacturing and operating airships for passengers and freight. The incorporated company is capitalized at \$5,000,000.

The Mississippi river is said to be the lowest it has been in years and traffic over a portion of its course is suspended until rains come, and mills depending upon water power have had to shut down for lack of water.

The dry weather is greatly injuring the wheat crop of the west and should hot days continue the shortage over last year will be greatly increased.

Mexico and the United States have been consulting with regard to some means whereby the revolution in Nicaragua can be quieted and peace effected. It is the opinion of the Washington officials that the anti-American feeling in the Central American countries is not as strong as it has been described. The calls upon bankers of this country for money loans would indicate a friendly feeling.

A year ago the first of July the government entered upon its fiscal year with a deficit of nearly \$60,000,000. On July 1, 1910, there was a surplus in the treasury of nearly \$10,000,000. There is a decrease in the postal deficiency of nearly \$11,000,000 and an increase of \$8,000,000 in the expenditures for the navy.

The street railway differences in the city of Chicago have been put in the hands of umpires. The purpose is to merge all the lines of the Illinois metropolis. Judge Grosscup, of the United States court, George G. Moore, of Michigan, and Calvin Goodrich, of Minnesota, will appraise the lines and decide questions that cannot be settled between the companies themselves.

Governor Hughes and Colonel Roosevelt were together talking over New York state politics on Tuesday. The act of the New York assembly in turning down the bill providing for direct nominations has aroused Mr. Roosevelt into unusual interest in the question.

Glenn Curtiss, the aviator, on Monday of this week covered 50 miles at the rate of forty miles per hour in his aeroplane over the ocean at Atlantic City. Counter winds prevented a greater speed, which it is declared could have been attained without the disadvantage.

Direct exchange of postal money orders will be possible between this country and Uruguay after October. Arrangements have just been made to that effect. Amounts in both directions are to be expressed in United States currency.

The state tax commission has increased the valuation of Traverse City 66 per cent over the former valuation.

Mayor Atherton, of Newark, Ohio, was suspended for 30 days by Governor Harmon, pending an investigation of the city officials' action during the rioting there last Friday which resulted in the lynching of Carl Etherington, a detective. A grand jury has been ordered.

The meeting of the benevolent and protective order of Elks from all sections of the country in Detroit this week is proving to be one of the greatest gatherings in the history of Michigan's metropolis.

Foreign.

Riots are the order of the day at Lai-chow in the province of Shantung, China, where a scarcity of rice has brought the displeasure of the poorer classes upon the wealthy, who are charged with having secured a corner on the crop and are now charging starvation prices.

The French chamber of deputies has ordered the appointment of an investigating committee to review the incidents connected with the closing of the banks of Henri Rochette, who it is now declared, was the victim of the government officials, they having used their authority, it is believed, to close the institutions to aid speculators.

The town of Campbellton, New Brunswick, was swept by fire Monday. Wire communication is destroyed. The population in 1901 was 2,602 persons.

The city of Puebla, Mexico, has been under martial rule since last week. Political rioting was the cause for the discontinuance of civil authority.

MICHIGAN CROP REPORT.

Wheat.—Reports from crop correspondents in the different sections of the state indicate a good yield and excellent quality.

The average estimated yield in the state and northern counties is 17, in the southern counties 16, in the central counties 19 and in the upper peninsula 13 bushels per acre. The total number of bushels of wheat marketed by farmers in June at 100 mills is 81,899 and at 70 elevators and to grain dealers 54,558, or a total of 136,457 bushels. Of this amount 108,364 bushels were marketed in the southern four tiers of counties, 24,358 in the central counties and 3,735 in the northern counties and upper peninsula. The estimated total number of bushels of wheat marketed in eleven months, August-June is, 1,750,000. The amount of wheat yet remaining in possession of growers is estimated at 250,000 bushels. One hundred and fourteen mills, elevators and grain dealers report no wheat marketed in June.

(Continued on page 49).

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

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

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

MICHIGAN'S FIRST CONSOLIDATED SCHOOL.

BY A. M. NUTTEN.

EAST of the beautiful and cultured city of Kalamazoo, bordering either bank of the river by the same name, is a busy industrial and residential community. In the center of this area lies the village of Comstock, housing three or four hundred people. Beside the men who work in a couple of good factories and some general stores, the population has been, until recently, almost entirely rural, the occupation being gardening and celery raising.

Recently, on account of the beauty of the place and the school privileges, a number of professional and business men from the neighboring towns have purchased homes and moved their families here. On either side of the river are fertile celery fields, gardens, and residences. Rising abruptly above these are hills which are being covered with fruit trees, while beyond lie some of the famous farms of Michigan, owned by men of culture and good business ability, and equipped with labor-saving machinery and splendid farm homes. Included in this territory is an addition to the city of Kalamazoo, known as Recreation Park—a pleasure center and residence district, inhabited by men who labor in the great industries of Kalamazoo.

Overtopping all this scene is the hill on which stands a modern school building where, at present, are enrolled two hundred and fifty pupils of all ages, from the kindergarten to the high school—an ideal situation, indeed, for the home of an educational institution. Spreading out before our south windows are fine celery fields and gardens, beyond which rise gradually the fine farms already spoken of, while in the opposite direction an equally fine view, dotted by lakes and beautiful orchards, may be seen.

To the west, in full view, is the city of Kalamazoo, while on our east are three small lakes; almost within a stone's throw, lie the beautiful Comstock Creek, and the snug dwellings of the villagers, surrounded by many groves of natural and planted trees.

Making lively all of this scene are the tracks of the Michigan Central railroad and the inter-urban division of the Michigan United railway, also the Kalamazoo river.

Briefly told, such is the environment of Comstock's consolidated schools, Michigan's first experiment in consolidation, which embodied a full high school course, with modern methods and modern ideals; and

who can doubt that environment has much to do with the success or failure of a school proposition.

For years it had been the idea of the representative citizens that a great need of the times was a better rural social condition; that to accomplish this, more of the young must be given better preparation for life's duties, and that they should be given an education better intended to make them happy; that a po-

tent force in the downfall of many of our young people is the early age at which so many of them leave the care of parents to get their education among strangers in the city, where temptation is sometimes more than they can bear.

Accordingly, at this opportune time, members of the board of education, backed by many loyal citizens of the entire community, began a canvass of the territory for the consolidation of several

districts. In a surprisingly short time, and in the face of very little opposition in the territory consolidated, a new district was born, containing about eighteen square miles of land, extending from the limits of the city of Kalamazoo on the west, to nearly the center of the township on the east, and from the town line on the south to the town line on the north.

The new district replaced four old districts, abandoned three old schoolhouses which, with the exception of one, were sold to the highest bidder; so that now there is one school building located almost in the geographic center of the new district. The district was organized at a special meeting called for that purpose. This meeting set in motion the wheels which have turned about a strong sentiment on the part of our citizens for a better community, for better schools, and of course, better men and women.

Of the gentlemen who were elected to the Board of Education, three were farmers, one a mechanic, and one an optician. Others who have served on the board are an attorney, and a farmer. I mention these facts because I consider it fortunate that a diversity of professions have been represented on the board, and I desire that all who read this article shall have a correct idea of the controlling forces which have made for good in the initial years of the school.

In the autumn of 1906, school opened with a principal and three assistants in the little school building formerly occupied by the village district. This building consisted of two assembly rooms, a large hall and a small library which was used for recitations. Hats and cloaks were hung in cold, exposed rooms, lunches were kept in the basement. In these small and uncomfortable surroundings were housed 140 children for the most part of the first year. During the summer of 1907, substantial repairs were made on the building, and the capacity more than doubled, so that now we have a large, well ventilated and well lighted house. In the fall of 1908, six teachers were employed and the enrollment reached 189, with another grade added and completed. A class of eight was graduated.

The third year opened auspiciously, and some new territory was added to the original consolidation. During the year, 206 pupils were enrolled, the average attendance being 189, or about 92 per cent. During this

(Continued on page 45).



Playground and Building of Comstock Union School as Improved Since Consolidation. Below is the Old Village Schoolhouse which Accommodated the Consolidated School for One Year and was then Enlarged and Improved.



ROMANTIC LIFE of HERBERT FURLONG.

Thrilling Experiences of a Soldier of Fortune, Ranchman and Federal Detective.

BY J. W. GRAND.

Some two months after the occurrence related in my last story both my wife and daughter were carried off with a fever then raging in the district. The loss of those I loved so unsettled me for business that I decided to resign. As soon as relieved, having had a military education in England and wanting some excitement to forget my troubles, I journeyed to St. Petersburg. Being a strong, strapping fellow of six feet and a good horseman, I had no trouble in securing a commission as orderly and courier, a perilous position in those days for the war between Russia and Turkey was at its height. I journeyed to Plevna and reached there two days after the departure of the 9th Corps.

With the fall of Plevna and the capture of Osman's army, it was thought that the backbone of the Turkish resistance was broken, but it was only a few days before everyone knew that there was to be no rest in the campaign. Orders were immediately issued sending the troops that had blockaded Plevna to one or the other of the advanced guards in the Balkans, and at the end of a week they were all in motion. I intended to overtake these troops on the road and follow the campaign with General Gourko's army. At the close of a long day's ride the storm increased in severity, and I was preparing to leave the road and seek shelter for the night in a village bivouac whose smoke I could see not far off, when a weird picture attracted my attention. Alone in the road, without a human being in sight, stood a company wagon heavily loaded with the men's rations; the ground was frozen hard beneath it and covered with snow on all sides; the snow was driving furiously through the air, and the eye could penetrate its mass but a short distance; against this white background stood the black silhouette of the middle horse of the "troika"; the other two lay stiff and dead at his feet on either side, and he alone was still standing, gaunt and feeble, swaying backward and forward in sad and terrible silence before the blasts of the storm, and waiting, half insensible, his turn to fall.

I found refuge for the night with a captain of a "park" of reserve artillery ammunition which was bivouacked in the village. He occupied one room of a little hut, the other being filled with a family of some ten or twelve Bulgarians, of both sexes and various ages. St. Petersburg cigarettes were forced upon me; and when it was time to go to bed he insisted long and urgently, though I would not yield, that I should sleep on his camp bed while he took the mud floor.

I left my generous host early the next morning and, making my way through the storm, arrived two days afterward at General Gourko's headquarters on the northern slope of the Balkans, near Orkhanie. The troops destined to reinforce his army arrived the same day, and on the next the orders were issued for the advance. The following day, Christmas morning, in intense cold, and in the midst of a dense impenetrable fog of particles of ice, we set out to cross the Balkans. The troops found almost insuperable obstacles in dragging their guns up the steep, icy slope of the narrow road which had been made over the mountain to enable them to turn the position of the Turks in their front. The guns had to be taken apart and dragged piecemeal by ropes up the mountain and late that evening, at the time when it was intended that more than half of the troops should have been at the southern outlets of the mountain passes, not a gun had reached the summit.

The position was a precarious one. The troops were spread over an immense length and there was the greatest danger that the movement would be revealed to the Turks and might be wholly aborted by flank attacks as the isolated detachments should reach the southern valleys. At nightfall General Gourko reached the summit and lay down in the snow for a little rest, thoroughly harrassed by the anxieties of the moment. It was one of those critical periods when success or failure hang in the balance, and the general's impatience knew no bounds as successive reports came to him of the difficulties and delays which the different columns met with. After admiring the magnificent view which was disclosed from the top of the mountain, at the base of

which lay the broad plain of Sophia, clad in snow, but dotted here and there with the numerous dark clusters of huts and curling smoke of the village, I declined an invitation to pass the night on the mountain and determined to push forward to a regiment which held the outposts in the valley below. Several hours after, when I was beginning to fear I had wholly lost my road and was wandering into the Turkish lines, I stumbled upon the village where the Russians were bivouacked.

While the troops were slowly dragging themselves and their guns over the mountain range, I took advantage of the delay to pass a day or two with the brigade of Caucasian Cossacks that was employed in scouting and skirmishing with the Turks in the valley of Sophia. These men are of an entirely different type from the Russians proper. They come from the mountains and valleys of the Caucasus, not very far from that portion of the earth which is spoken of as the cradle of the human race, and they are of a remarkably pure Caucasian type—ruddy complexions, dark hair and eyes, short black beards, and compact, well-knit frames; their wild picturesque costume consists of a black, wooly, sheep-skin hat, one or two long tunics, coming to their heels, the inner one of red or black silk and the outer of brown woolen cloth, a pair of trousers, and low boots outside of them. The tunic is gathered in at the waist by a very narrow belt of leather, ornamented with silver worked in enamel; the scimeter-like sword is hung by a similar piece of leather passing over one shoulder, and over the other hangs the carbine, in a sheath of sheep-skin; on each breast are half a dozen cases for cartridges. Their horses are the counterpart of themselves—short, thickset, extremely hardy, and very intelligent. The men are wonderfully bold riders, though their seat and appearance—with short stirrups and high saddles—have little in common with what we are accustomed to call good horsemanship.

The brigade was bivouacked in one of the little villages of the Sophia plain when I joined it just at daylight a day or two after Christmas. The village was wrapped in snow and showed no sign whatever of the thousand men who were hidden in it, except that a good many horses were in the yards of the huts. I found the hut of the commandant, who was just rolling out of his blankets, and refreshed myself with a few glasses of the customary hot tea. Half an hour afterward we were in motion, moving out through the deep snow toward the town of Sophia to reconnoiter the strength of the Turks at that place.

As we approached one village we were received with a few shots coming from behind the hedges. The column was halted and some skirmishers thrown out, who reported a body of Turkish infantry in the village, engaged in crossing a deep little stream which was covered with a thin coating of ice not strong enough to bear our horses. Those of the Turks who had already passed were drawn up in line on the opposite bank, and as the Cossacks could only approach the ford through a narrow street they were at a considerable disadvantage, considering that their object was merely a reconnaissance, and nothing was to be gained by losing forty or fifty men. So they only skirmished with the Turks for half an hour. Then, all the latter being across the stream, they broke into a double-quick on the road to Sophia. The Cossacks put after them, but the ford was very narrow, and it was some time before they were over. The Turks got a start of a good half-mile, and as soon as the Cossacks came near them they stopped long enough to give them a warm fire and then ran on.

Then the Cossacks tried to go around and get ahead of them, but the deep soft snow in the fields made their progress slower than that of the Turks. So they merely kept up the chase for three or four miles, until they came to the main high road at a point where it crossed a considerable stream about three miles in front of Sophia. The Turks got safely across the bridge and then we were saluted by a fine rattling fusillade extending over a length of about a quarter of a mile of the opposite bank of the stream, and we saw a regiment or more of Tcherkesses deploy on the opposite bank. Here we were in full sight of the town, and the

officers had a good opportunity to sketch the position of the fortifications. The Cossacks fell back to about 1,200 yards and sat there exchanging shots for nearly an hour. While with our glasses we could plainly see many a Turk knocked out of his saddle by our Berdans, not a man on the Russian side was hit, and not a bullet was heard to whistle.

A week later another skirmish took place in the same locality. This time it was the main body of Gourko's troops forcing their way to Sophia; they met with resistance at this same bridge, and a smart skirmish took place, lasting about an hour, costing the Russians fifty or sixty men. On this occasion I was with General Gourko's staff, and we stood watching the fight on a tumulus about three hundred yards in rear of the place where I had been before; this time the bullets flew fast and thick, and a few horses in our troop were wounded; but now it was Turkish infantry opposed to us armed with rifles which carried with deadly effect to 2,000 yards.

As the sun began to go down the Cossacks gradually withdrew, having gained as much information as was possible with their force. Along the road were the evidences of an affair in which these same troops had been engaged a few days before, and which were more to their taste than today's gentle skirmishing. Pieces of broken wagons, dead horses, immense stains of blood in the snow, men with their heads split open, these were the marks of an attack on a transport train guarded by a company of infantry, every man of which had been cut down. And yet so strange are the anomalies of semi-civilized nature that at the end of that affair an infant, not over six months old, which was found deserted among the debris, was picked up, wrapped in a big cloak, tenderly cared for during the night, and the next day carried back on horseback thirty miles over the mountains to the nearest hospital, and there delivered to the Sisters of Charity of the Red Cross, by whom it was taken in charge and sent to Russia for adoption. The picture of the rough Cossack carrying this child, laughing in his face, on the pommel of his saddle through the snow was a most attractive one; and yet the same man, without a moment's hesitation, would pull out his sword and hack off the head of the child's wounded father, lying on the ground and begging for mercy; and, while enjoying the zest of it at the moment, would forget all about it the next day.

While this reconnaissance had been going on, the main body of the troops were still tugging painfully at their guns on the mountain range. It was six days before they had pulled them up on one side, slid them down the other, put them together, mounted them on their wheels and turned them over to the horses for draught. Finally all the troops were assembled in the valleys on the southern side and an attack was made on Taskosenon, the last day of the year, the position which the Turks had taken up by throwing back their left flank to oppose the Russian advance against their rear. The troops made a short but good defense, keeping it up until a dense fog settled just before sunset and prevented Gourko's getting in the rear of the main Turkish army and bagging it entire. It was a pretty fight to look at. The Turks had a good position along a pass in the spur of the mountain through which the road ran. They were on high ground, and the Russians had to advance through an open valley. In front of them, directly opposite to the Turkish position and about two miles from it, was a high spur on which we were situated and from which every movement of the battle could be seen with perfect clearness.

It was a very hazy morning when the great mass of Turkish horse, foot and field guns swooped down on our position; 8,000 of their cavalry seized the heights north of the wide, long valley in front of the Russians, while another division came driving along the heights to the south of the valley and playing the very mischief until they ran foul of two divisions of Cossacks. By six o'clock the high crest behind the Cossack cavalry was covered with Russian officers and generals who had heard the sound of battle over in the valley and had mounted in hot haste to see what was going on. Presently General Gourko himself appeared and gave a Cossack officer orders to move to the support of the advanced division of the Cossack cavalry. Away they went. They opened out to pass a little vineyard and then heading for the valley rode out on the rolling, open prairie, and were soon well over in what was called the south valley, with a low ridge separating them from the north valley where, at this very mo-

ment, their comrades of the advanced brigade were placed in position at the western end and in full view of what they could not see at all—a dense mass of Turkish cavalry, eight or ten thousand of them at least, in their peculiar caps and heavy gray coats.

A Russian light battery had trotted out and unlimbered. The moment it caught sight of those gray masses a few shells were sent right over the heads of the Cossacks. No sooner had the Turkish leader found himself under the fire of the guns than he swung the whole mass directly in front of the brigade of Cossacks which did not number more than three hundred. The Turkish cavalry moved steadily up the valley slope beyond which the Cossacks were starting downward, and the next thing the Cossacks knew the whole ridge to the left was alive with the banners of the Turkish cavalry; and then, in magnificent order, solid, massive, sixteen deep, those great battalions of Turkish horse came surging over the crest and down the gentle slope directly at the slender column of Cossacks.

If the Turks had suddenly sounded the gallop and charged they would have come thundering down that broad, open track, an avalanche of resistless force, and by sheer weight, and without striking a blow, could have swept the brave little Cossacks from the field. They were just about twenty to one, and how many more there might be behind the low ridge a quarter of a mile away the leader of the Cossacks never stopped to ask. Seeing the preponderance against them, Cossacks would have been justified in wheeling to the right and scampering under the shelter of the guns, where at this moment Gourko and all his officers sat, mad with anxiety as to the probable fate of the little brigade of Cossacks. Everybody expected to see them scurry off to the right but like a bulldog they whirled to the left and flew straight at the throat of the foe. The instant the Turkish leader saw it he proved his incompetence by sounding "Halt!" and then, as though utterly aghast at the nerve and pluck of those little Cossacks, he sat in the saddle, irresolute, wondering what to do next. The Turkish horse batteries, with more cavalry, were popping up on that crest, but if there had been a million inside of a minute it wouldn't have checked the Cossacks now. Upon the heights men held their breath and watched in amazement, yet thrilled with admiration and delight. In front of them sat the Turks, stolid, almost stupefied, as with a savage yell the Cossacks went dashing up the slope.

No time to think now! A splendid looking officer—the colonel, probably—sat in front of the Turkish center. His last act in life was a furious cut at the Cossack leader, which did no harm, for the Cossack's lance transfixed him and whirled him dead under the horses' hoofs. The next instant the Cossacks had shot deep into the Turkish mass, and now, wedged in solidly on every side, were battling for their lives. And then there arose a din over which no orders could be heard—the clang of steel, the rattle of fierce blows, the wild shouts of the combatants, the neigh and scream of terrified horses. Dozens of the Turk riders, terrified at the vim and fury of the Cossacks, slipped from their saddles and took refuge under the horses. Others fought and prodded the best they knew how. Three or four hundred Cossacks, charging seven or eight thousand uphill, was something never before heard of. The foremost horses of the Turks backed against those in the rear. The Cossacks were by this time so far in the heaving mass as to be beyond help of any kind, and there was no telling how things might have ended, when, with resounding cheers, the second squadron of Cossacks went dashing in on the Turkish right. Then, to the enthusiastic delight of the spectators on the heights, after ten minutes of the most exhausting fighting, the whole Turkish mass began heaving backward uphill, and then dribbled, frittered and clattered away in squads and bevvies whither their handful of conquerors were too breathless and exhausted to pursue.

The supposed impassable Balkan line had been passed in the depth of winter and the Turks were in full retreat. Short dispatches were at once written and sent with utmost speed to be delivered into the emperor's own hands at St. Petersburg.

Pursuit was impossible and the scattered Turks went their way unmolested until they reached the shores of the sea where they were picked up by the ships of the Turkish navy and transported to Constantinople. On the 31st of January the armistice was signed which put an end to active operations.

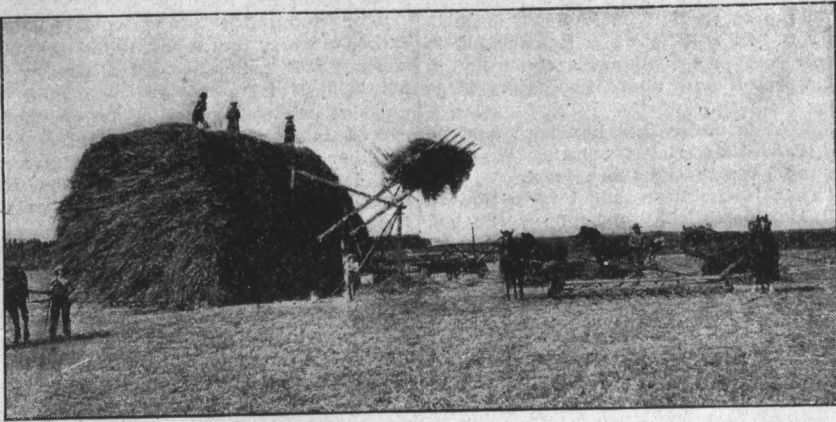
HAYING TIME.

BY ONEY FRED SWEET.

They're all out there in the big west field;
Pa and the boys and the hired man,
And the summer sun is a-shining down
With another tinge for their burn and tan.
Machine's a-hum with the cricket's chirp,

Out on the farm where they're making hay.

Once I remember a storm came up—
A big black cloud in the distant west.
How sultry, hushed, and how thrilling 'twas
When we all plunged in just to do our best
And make the hay ere the raindrops fell!



While the green sea falls into heaps of gray;
Oh, it's good and hot, but it's good to be—
Out on the farm where they're making hay.

In youthful days I carried the jug
Of water, cool, to the field below.
The berries grew in the meadow grass
Close by the trail that they used to mow.
And sweet the song that the skylark sang;
And the clover blooms—oh how fragrant they;
Say, my heart's out there if I cannot be—

Now wouldn't mind, could I get away,
To walk barefoot in the stubble's pain—
Out on the farm where they're making hay.

Yes, hot the town when it's mid-July,
The slaves of office, and shop, and mart,
Now gasp and sigh for the fresh and cool
That the city walls have so set apart.
But I know a place where the prairie air
Blows 'cross the clover from far away,
Where it's good and hot, but it's good to be—
Out on the farm where they're making hay.

MICHIGAN'S FIRST CONSOLIDATED SCHOOL.

(Continued from page 43).

year several forms of manual training and music were introduced, which proved popular from the start.

At present there are employed seven regular and two special teachers, and 252 pupils are enrolled. The course of study has been a growth, intended to meet the needs of the community, and stands in close relation to the home.

Course of Study.

The following is a brief outline of the course of study which will go into effect at the beginning of next year:

Required.	Electives.
English.	Eighth Grade.
Arithmetic.	German.
Algebra, one-half year.	Manual training.
U. S. History and Michigan Civics, one-half year.	Machine sewing.
English.	Ninth Grade.
Algebra.	German.
Ancient history.	Agriculture and Botany.
	Domestic training, (girls), cooking, dressmaking.
English.	Tenth Grade.
Zoology, one-half year.	German.
Med. and modern history.	Agriculture, horticulture, crops.
Physiology, one-half year.	Domestic training.
	Eleventh Grade.
English.	Latin.
Plane geometry.	Agriculture.
Physics.	Domestic training.
	Twelfth Grade.
English.	Latin.
Solid geometry, one-half year.	Chemistry.
Arithmetic, one-half year.	Agriculture.
History and government.	Domestic training.

In addition to the above, instruction is given in music, art, rhetoricals and ethics. The course of study in the grades

is so organized as to form a foundation for the high school course. Whittling, stenciling, weaving, basketry, free hand and mechanical drawing, and the various forms of nature study are given the attention their importance deserves.

Play for a purpose is encouraged, and stimulating games prove helpful in arousing interest and securing good fellowship among the pupils.

It will be noticed that elementary agriculture is made a branch of study in the curriculum. The subject of agriculture has come to be rated with other sciences as a teachable subject, and the importance of agricultural education in the rural schools has come to be acknowledged by all classes of school men and citizens who have made the matter a study.

Transportation is accomplished by means of three covered wagons and the interurban railroad. No inconvenience greater than the ordinary has been met with. The writer well remembers the daily trip through the cold and storm, three-quarters of a mile to school, and feels quite confident that the hardships endured by the pupils getting to and from our school in covered wagons is not to be compared with the trials of those olden times. I remember distinctly the frozen ears and numb feet, and clothes often saturated with rain; then, too, I have often wondered if parents knew of one-half the immoral conduct on the road to and from school. I have always been glad that the old road cannot tell of the happenings.

I am permitted, through the courtesy of Prof. Ernest Burnham, to copy from his very valuable pamphlet, "Rural School Efficiency," the following which gives an idea of the comparative cost of education under the two systems:

The most elaborate consolidation which has thus far taken place in Michigan, was made in 1906 in Comstock township, where four whole districts and parts of

two others were united. The Comstock consolidated school is one of the best of the graded schools of the county. Twelve grades of work are done and instruction is given in domestic art, manual training, drawing and music. Library, laboratory and class room facilities are being accumulated and the service rendered by the school is constantly improving. Transportation of pupils is by three large carryalls and no serious obstacles have been found to the orderly administration of the school.

Facts in detail about consolidation of schools in the county since 1900 may be found in the appended tabular statement:

this computation were taken from the inspector's report on file in the office of the county clerk. The reports were the official ones for the year 1908 and 1909, and are as follows:

Comstock, per capita	\$24.20
Richland, per capita	54.50
Galesburg, per capita	24.03
Alamo, per capita	39.00
Schoolcraft, per capita	30.60
Vicksburg, per capita	27.03
Augusta, per capita	33.70

It will be noticed that these schools are all in this county, are considered among the best schools of the state, and all manned by good school men. If I am rightly informed only one of these schools offers

DISTRICT.	School Census.	Enrollment	Average Attendance.	Mos. School.	Teacher's Wages.	Cost of Education.	*Tax Rate.
No. 1 fr. Comstock (1906)	129	76	55	9	\$315-300	\$946	
No. 5 Comstock	25	22	18	8	224	264	
No. 9 Comstock	18	9	8	9	258	316	
No. 15 fr. Comstock	44	19	14	9	270	322	
No. 2 Comstock (1/2)	13	4	3	8	112	163	
No. 6 Comstock (1-5)	4	2	2	7	35	43	
Total	233	132	110	Av. 8 1/2	\$1,514	\$2,054	Av. .0024
Consolidated District (1907)	264	197	141	9	\$1,907	\$3,689	.0032
Consolidated District (1908)	296	206	189	9	\$2,425	\$4,361	.0041
No. 2 Cooper (1901)	35	30	27	9	\$315	\$407	
No. 3 Cooper	20	15	11	8	148	171	
Total	55	45	38	Av. 8 1/2	\$463	\$578	Av. .0018
Consolidated District (1907)	59	55	51	9	\$405	\$578	.001

An analysis of the above figures reveals several interesting facts: First, it shows that but 56.6 per cent of the children on the census list attended school before consolidation and 70 per cent after the consolidation, a gain of 13.4 per cent. Secondly, the average attendance before consolidation was 83.3, while after the consolidation, it was 91.7 per cent, a substantial gain.

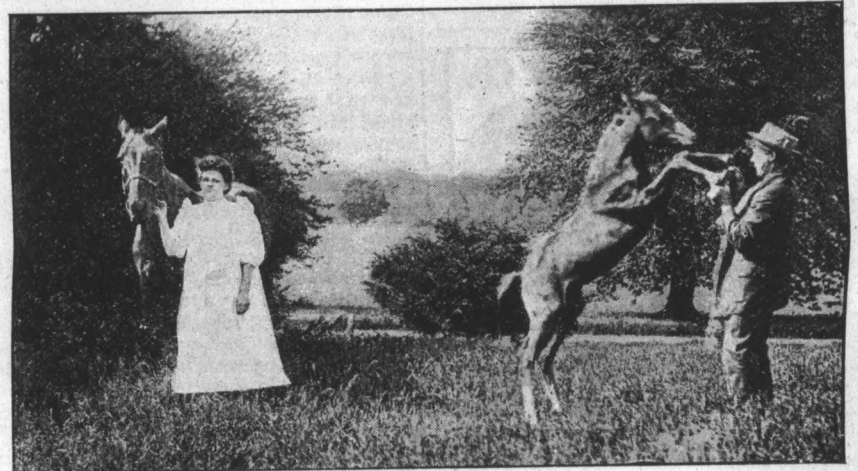
In dollars and cents, the facts should not be overlooked. It will be noticed that the school year in the first case was only eight and one-third months; the cost

courses in domestic science or domestic art; one offers courses in music; one in manual training, and one in agriculture, which will be taught next year.

Some of the Results.

I think our experience warrants me in giving, as some of the advantages of consolidation, the following:

Raising the average attendance and the age at which children leave school, making more years of home life, larger classes and better teachers and, as a result, better school spirit, better sanitary conditions, less exposure to bad weather, good



Teaching the Colt a New Trick.

per capita for this time was \$18.67, or \$20.15 for a nine-month year. The cost for the first year of consolidated schools was \$19.00, and for the second year \$23.07.

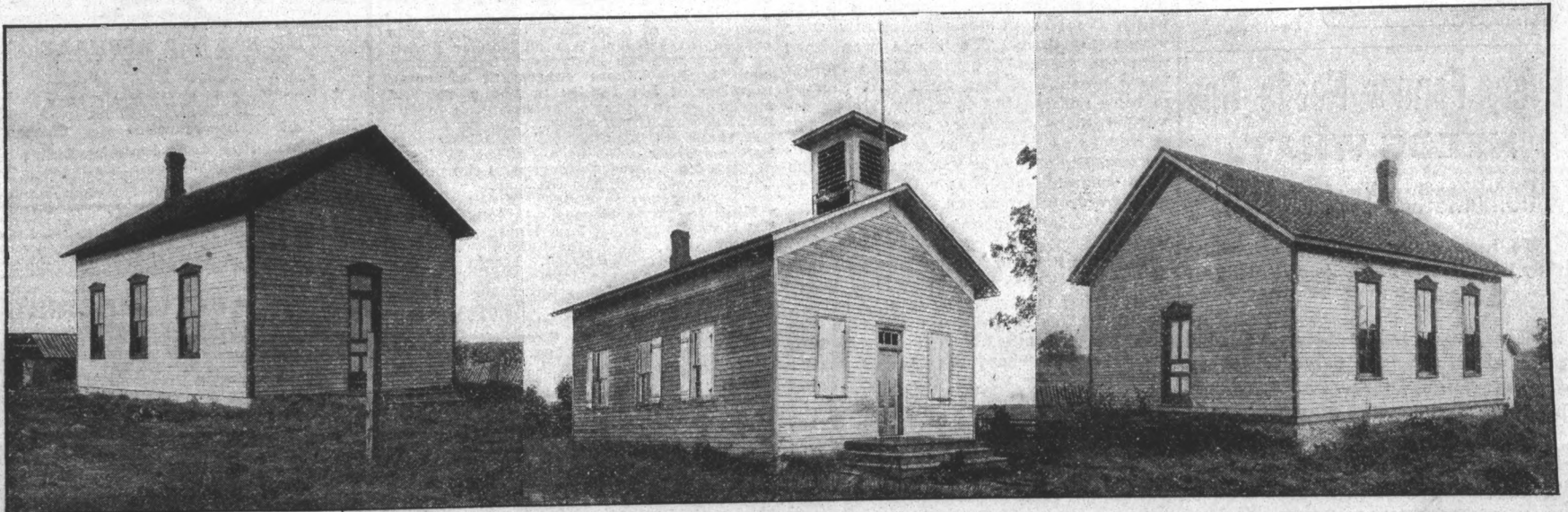
Now what have we to show for these respective amounts? For \$20.15 each, our pupils have had the advantage of the little schoolhouse in the corner of the road, with little or no apparatus, no instruction in music, art, sewing, or any high school branches, while the \$23.07 paid for a full high school, with music, sewing, art, good laboratory equipment and janitor, together with interest on a \$6,000 debt.

In regard to the cost per capita, the following is suggestive. The items for

library and laboratory facilities, a better social condition, making it possible to teach agriculture and home making.

It brings about a better social condition. Pupils meet together in a large group, and the half gulf between the city boy and the country boy is eliminated. Loitering by the wayside and listening to bad language is avoided. Teaching cultural subjects is made possible, thereby securing a happier and better rural home, with happier and better citizens in it.

Mankind are more indebted to industry than to ingenuity; the gods set up their favors at a price, and industry is the purchaser.—Addison.



Three of the Five Rural School Houses in Kalamazoo County which were Abandoned in the Interests of Consolidation.

When You Think

Of the pain which many women experience with every month it makes the gentleness and kindness always associated with womanhood seem to be almost a miracle. While in general no woman rebels against what she regards as a natural necessity there is no woman who would not gladly be free from this recurring period of pain.

Dr. Pierce's Favorite Prescription makes weakwomen strong and sick women well, and gives them freedom from pain. It establishes regularity, subdues inflammation, heals ulceration and cures female weakness.



Sick women are invited to consult Dr. Pierce by letter, FREE. All correspondence strictly private and sacredly confidential. Write without fear and without fee to World's Dispensary Medical Association, R. V. Pierce, M. D., President, Buffalo, N. Y.

If you want a book that tells all about woman's diseases, and how to cure them at home, send 21 one-cent stamps to Dr. Pierce to pay cost of mailing ONLY, and he will send you a FREE copy of his great thousand-page illustrated Common Sense Medical Adviser—revised, up-to-date edition, in paper covers. In hand-some cloth binding, 31 stamps.

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placed anywhere, attracts and kills all flies. Nest, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, cannot spill or tip over, will not soil or injure anything. Guaranteed effective. Of all dealers or sent prepaid for 20 cents. HAROLD SOMERS, 150 DeKalb Ave., Brooklyn, N. Y.

Every Farmer Needs One NEEDS WHAT?

A Combination Tool of Course.

We have a few on hand, and while they last we are going to sell them for **60c EACH** POSTAGE PAID.

It contains 10 finely tempered steel tools which are invaluable for every day use: Screw Driver, Chisel, Gouge, Bit, Tack Puller and 5 other tools.

This practical combination tool sent you postage paid for only 60c. Send all orders to

THE MICHIGAN FARMER, Detroit.

ROBBY'S KITTENS.

BY INA C. ESTES WHITE.

"Grandma, see my kitties!" The little fellow said, "I just gave them some nice, new milk, And now they're going to bed."

I looked and saw two fluffy balls As near alike as pins, "Dear Robby boy," I asked him then, "Do tell me, are they twins?"

He laid them both into my lap With many hugs and pats, And said, in a slightly pitying tone, "Why, Grandma, they're just cats!"

A BIRD HUNT.

BY Z. I. DAVIS.

"Miss Blakely, I hope that you will give the Crampton boys a good talk on showing kindness to birds and animals. They do not seem to have any feeling or mercy toward the lower creatures, and are as cruel as they can be to any living thing that falls into their hands," said Joseph De Forest to his teacher.

"I am very sorry," she replied, "for they always seem so quiet and studious. But I must have positive proof, you know, before I can say much to them. We are to have an essay on birds next week, and that may awaken their interest in friends and feathers."

"Come on with me to hunt birds' eggs," called Mattie Gray to her schoolmate, Nellie Win, one bright morning in May.

"My mamma told me not to rob birds' nests," replied Nellie gravely.

"As if I would do such a thing as that," exclaimed Mattie in a reproachful tone. "See my new camera?" she continued, as she proudly exhibited the highly polished instrument. "It is my birthday present," she added, "and that is the only gun I am going to shoot the birds with."

"Wait a minute," said Nellie, "and I will see if mamma will let me go with you." In a few minutes she returned, carrying a paper bag. "I can go," she said, "and here is lunch for us both." Then the two girls began to talk of their lessons as they started toward the green woods that flanked the town.

"Next Wednesday," Mattie began, "we are to have our essays. My subject is birds, and I thought it would be nice to secure my information at first hand."

"That reminds me," said Nellie, "that I am to write about wild flowers. This will be a good time to gather the material."

As they entered the woods each one began to look about for whatever would add interest to her subject.

"Just look what I have found," cried Nellie in an excited voice. "Here is the most beautiful bunch of lady slippers that I ever saw. See what a rich satin hue their creamy petals are. I must have them all, root and branch."

"Do come quick," called Mattie. "Here is the queerest looking bird's egg that you ever saw. It is very large and light gray, mottled with brown spots. I wonder what kind of a bird laid that egg? It is here on the ground surrounded by a few pieces of sticks. How do you suppose it came to be here?"

"That is a whip-poor-will's nest," explained Nellie, coming to examine the egg more closely when she had marked the bunch of lady slippers. After making a note of the name, the girls proceeded to new conquests.

"I have found a humming bird's nest at last," exclaimed Mattie in a tone of exultation.

"Is it not a dear," laughed the girls, looking at the tiny birdlings' cradle where it was securely fastened to the swaying maple bough. The discoverer jotted down her observations on the cunning skill with which the bits of moss and straw were woven together. The inside was lined with the softest down from the mother bird's breast. A wee form that seemed to have nothing but mouth and eyes rewarded their search by opening its bill as widely as possible at their approach. An egg, the size of a pea was beside the baby humming bird. It was not easy to photograph the nest and its interesting occupants, but Mattie finally succeeded with Nellie's help.

The next nest that they found was that of a robin. There were three lusty fledglings crying loudly for something to eat. One bright, shiny egg remained in the nest to be hatched. "The mother bird must be somewhere near," said Mattie eagerly looking up in the overhanging branches.

"Oh how could anyone be so cruel?" exclaimed Nellie as she bent over some underbrush. "Here is its poor, limp body hanging by its feet from this thorn bush," and the hot tears chased themselves down the girl's flushed cheeks.

In an instant Mattie was by her side. "The body is warm, yet," she replied, quickly cutting the cord that bound its feet to the bush. "See! it is alive, but faint and weak from its struggles for freedom," she added.

Opening the lunch bag, Nellie drew out a flask of milk and gently poured some down the bird's throat. Slowly it opened its eyes and then eagerly drank some milk from the spoon that its kind friends held near it. In a little while it was able to hop about. As soon as it could find a fat worm it flew up to its hungry birdlings with it.

"What is under that box with a stone on it?" asked Nellie pointing to the ground beneath the thorn bush.

"That is the first that I have noticed it," Mattie replied, as she drew the box from beneath the stone. Overturning it, there crouched papa robin, almost suffocated for want of air. "If the sides of the box had not been bulged he would not have been alive," said Mattie, as she treated him to milk. She soon had the joy of seeing him fly up in the tree to the nest.

"Let us have our lunch," said Nellie as they sat down on a hickory log and placed a spread between them. The chicken sandwiches and jelly rolls were just nicely placed in order when the Crampton boys came along.

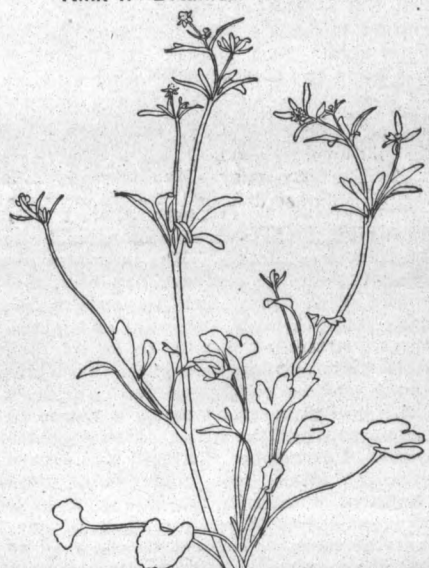
"Did you catch these robins?" asked the girls in a breath.

The boys nodded. "Who did you think would feed the little ones? We need every robin for they destroy harmful insects. There is a fine for killing song birds and we will report you to the game warden if you torture any more," said Mattie.

After a delightful time in the woods gathering trophies, the girls returned home. They found their teacher and reported the Crampton boys. After that the boys never harmed any more birds.

KINKS.

Kink I.—Botanical What-Is-It?



The plant represented by this picture is one commonly found in moist ground in May and June. It grows 4 to 12 inches tall, and has very small yellow blossoms. Give its common name, its specific and generic names, and the family to which it belongs.

Kink II.—Enigma.

My first (1, 2, 3) is something which one does every day if he is my second (4, 5, 6, 7), which is an adjective. My second furnishes the ability or means to perform my first, but my whole (1, 2, 3, 4, 5, 6, 7) is a necessary condition. My 3, 4, 5, 6, 7 is the proper place to perform my first.

Prizes for Straightening Kinks.—To the sender of each of the ten nearest correct answers to all of the above Kinks, we will give choice of a package of 50 postcards of general interest, a nice leather purse, or a copy of the Everyday Memorandum cook book. Where contestant or some member of his family is not a regular subscriber a year's subscription (75c) must accompany answers. Answers must not reach us later than Aug. 13, as correct solutions will be published in issue of Aug. 20. Address answers to the puzzle Department, Michigan Farmer.

Answers to June 18 Kinks.

Kink I.—Some Horses.—1. Horsepower. 2. Horse sense. 3. Horse-play. 4. Horseradish. 5. Horse-nettle. 6. Saw-horse or horse-pistol. 7. Horse jockey, horse men or race horse. 8. Clothes-horse. 9. Horse-chestnut. 10. Horse-fly. 11. Horsewhip. 12. Nightmare. 13. Iron horse. 14. High-horse.

Kink II.—Drove of Oxen.—1. Oxford. 2. Oxygen. 3. Orthodox. 4. Fox. 5. Equinox. 6. Oxalic. 7. Paradox. 8. Box. 9. Oxbane. 10. Coxcomb.

Kink III.—Word Square.

F L A M E
L E M O N
A M B I T
M O I E R E
E N T E R

No Prizes Awarded.

None of the sets of solutions to Kinks of June 18 proving entirely correct no awards are made.

TURN OVER TIME

When Nature Hints About the Food.

When there's no relish to any food and all that one eats doesn't seem to do any good then is the time to make a turn over in the diet, for that's Nature's way of dropping a hint that the food isn't the kind required.

"For a number of years I followed railroad work, much of it being office work of a trying nature. Meal times were our busiest and eating too much and too quickly of food such as is commonly served in hotels and restaurants, these together with the sedentary habits were not long in giving me dyspepsia and stomach trouble which reduced my weight from 205 to 160 pounds.

"There was little relish in any food and none of it seemed to do me any good. It seemed the more I ate the poorer I got and was always hungry before another meal, no matter how much I had eaten. "Then I commenced a fair trial of Grape-Nuts food, and was surprised how a small saucer of it would carry me along, strong and with satisfied appetite, until the next meal, with no sensations of hunger, weakness or distress as before.

"I have been following this diet now for several months and my improvement has been so great all the others in my family have taken up the use of Grape-Nuts with complete satisfaction and much improvement in health and brain power. "American people undoubtedly eat hurriedly, have lots of worry, thus hindering digestion and therefore need a food that is predigested and concentrated in nourishment."

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

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

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means skin beauty. Blotches, roughness, itching humors and unsightly eruptions are mortifying—and needless. Heiskell's Medicinal Soap keeps the pores of the skin open and clean. This allows natural secretions to pass off instead of forming black heads, pimples and roughness, as is the case if the pores are clogged. The use of Heiskell's Medicinal Soap

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Wanted—Agents to sell Farmers' Account Book. Quick sellers, big inducements, exclusive territory. Address L. L. SYPHERS, Ft. Wayne, Ind.

WOMAN AND HER NEEDS

DO YOU WANT TO DO SOME GOOD?

Here's An Easy Way.

HOW do these poor children in the city ever stand this weather?" How many times the country woman thinks this as she looks at her own healthy brood. "I wish I could do something for them. If I only knew how to go about it I'd have one or two of them out here for a breathing spell."

It is women with these kindly thoughts for the city poor that the Michigan Fresh Air society wants to find. If you want to help a poor child to a bit of summer vacation write the secretary of the society, Mr. James B. Williams, at 69 Lafayette Boulevard, Detroit, and tell him so. He will do the rest.

In writing, send some reference as to your own character and responsibility, the name of the minister, or school teacher or banker in your community who knows you and can vouch for you. In return they agree to send you a child who is clean, properly fed, and free from contagious diseases. They pay railroad fare, and only ask you to see that the child gets plenty of plain food, fresh air and pure water while he or she is with you.

If you have children of your own, say so, if not, tell them that. In this way they can use greater care in sending the child out, and take pains not to send one whose influence they know will be bad over your child. Of course, even with this precaution they can not guarantee to send a child who has no bad habits, but you are expected to see that the child behaves while in your charge, and to take sane measures to make him do so.

The Michigan Fresh Air Society has been working since 1894. It was re-incorporated in 1902 and since then has sent 4,000 children to the country. Last year 350 were cared for; this year they want to double the number. The society is backed by 30 or 40 charitable people,

mostly Detroiters, though some contributors are outside of the city. Of these the member who contributes most is Siron Kellogg, of Plymouth. George N. Brady is president of the society, and J. L. Hudson, treasurer. Members of the executive committee are Miss Emma Parker, Mrs. T. S. McGraw, Mrs. Helen M. Moore, Miss Fay Henry, Miss Bessie Bennett, Mrs. E. S. Barbour, M. J. Murphy, James B. Williams, secretary, and Miss M. A. Dupont, assistant secretary.

If you wish to take a child or two, write directly to the society at the address given above. Any letter sent to the Michigan Farmer will be turned over to the society.

"I'd be glad to take one of those children, if I only knew they were all right," I hear some say. "But suppose I got some bad boy or girl out here and had a lot of trouble with them. If I thought the society would send me one that was all right, I would take one for all summer."

Well, let me ask you, how good do you think you would be if you lived under the same conditions these children exist in? Do you think dirt, heat, poor food, or none at all, and evil companionship go to make model boys and girls? Of course, some of the children are bad, they don't know any better, but that is all the more reason for giving them a chance. Some one centuries ago said, "I come to seek and to save that which was lost." And it is these poor, neglected, perhaps even wicked boys and girls who most need the fresh air and wholesome surroundings of the farm home. Perhaps all they need is pure air, three square meals a day and a bath to regenerate them. I'm sure it is a whole lot easier to be good on a full stomach, than it is on an empty one.

DEBORAH.

HAND EMBROIDERY OR BRAIDING ORNAMENT SOME SMART BELTS.

BY MAE Y. MAHAFFY.

To select a belt this season is, indeed, quite a problem, for the shops are supplied generously with a vast range of styles and colors. If one wishes a belt to go with any particular suit it is usually best to make it of the same material, but this is not always possible, and especially is it out of the question for those who depend upon the ready-to-wear garments, since very few of these have belts in separate form.

For the linen or other wash fabrics, if the same material is unobtainable the regulation cotton belting is good, and can be secured in white and decorated in the same or a color to suit one's fancy. For the woolen suits it is generally possible to secure silk belting of the desired shade; if not, a wide braid can often be made to answer. Any of these may be ornamented in embroidery or braid or cord. Open forms of embroidery are not satisfactory, but any of the solid styles are permissible. Some of the wash fabrics are readily worked in eyelets or cut work, however, even though the belting is not, so that there is always a large selection.

In the illustrations, simple effects are chosen, since these are more readily followed by the average worker without a pattern. The first shows a braiding design, which may be carried out in the soutache, a cord, or in outline stitch in heavy floss. The second design is of both braid and embroidery, the outline portions being in the braid or cord, and the ovals in solid satin stitch.

Number three has rings, interlocked, enclosing half moon shapes, from which straight lines run to other half moons. The rings and lines should be worked over and over, and the half moons solid. If colors are desired for this design use three of any one color; such as, delft blue, olive green, old rose, etc. The darkest shade should be used in the two central rings; the next lighter in the remaining rings and lines, and the lightest of all in the half moons. If each figure is then outlined in black it will bring out the colors and give a rich, handsome effect. Several different colors may also be utilized, as brown, green, red, yellow or orange, with the black outlines. This is also true of number four, which should

sign is followed on suitable material it may be wrought in eyelets and cut ovals, or the ovals may be worked solid with eyelets in the center of each flower.

Number six is desirable for eyelets and solid work, the petals being solid and the circles open work. If on material unfitted for eyelets, the circles may be worked solid also.

A NOVEL VACATION—HOW ONE MOTHER GOT A REST.

BY E. E. J.

You often hear farmer's wives say there is no rest the whole year round, always something to do, butter to make, chickens to feed, and the family to care for, so at the close of the year there is little to look back upon but work.

Certainly every one should have a pleasure time during each year when there is no worry about work and when one can do as one pleases. It rests and cheers the blue and disheartened person and makes her see the bright side of things again.

Traveling, visiting friends and relatives, is enjoyment to many but it is seldom a great rest, although change of scene and seeing how other folks live often does much good towards making the "thankful spot" in our hearts grow. Many of us cannot travel for crops may be poor and money scarce but we can all enjoy this novel vacation I am to tell of. All one needs is plenty of shade, a good hammock, several sofa cushions, some good books and a horse and buggy. With these you can have a truly helpful vacation and will realize as never before what a comfort a farm is.

Last summer money was very "rare" in our family and the trip down east and all the good times we had planned had to go in another way. At first we all sat down and scolded, as is the way of most women, and then we put our heads together and began to plan how, with a tiny bit of money, we could have mother take a good rest. Mother was to have the vacation for we girls had been teaching all the year, and doing housework seemed a desirable change after weeks of school room confinement.

One Saturday in July we arranged the guest room and Saturday night we took mother and father up there away from all the noise of the lower floor. Sunday, mother slept until she was rested, came down when breakfast was ready and as soon as the meal was finished went out to her hammock and read and lounged. For two weeks she did this same thing, keeping away from the kitchen so her always busy fingers might not find work to do. Such books as she expressed a

wish for were brought from the city library.

Whenever she felt like driving we brought the horse to the door. She made many pleasant calls and took her old friends for long drives. One day she went for a picnic and several days she and father spent driving through the country and visiting old friends whom they did not often see and talk with.

Mother said at the end of her vacation that she felt like a new person. If she had not had a long trip she had at least had time to do many things one often leaves for odd moments that never seem to come. She had forgotten her household cares for a little, was really and truly rested and ready for work again with a lighter heart and less careworn look.

We all pronounced mother's vacation a great success and hereafter it is to be an annual affair in our family.

I hope all the girls when they come to their homes from college, office or school teaching and find their mothers tired and growing old will try this "Mother's Vacation" plan and see what changes are wrought. At the end of two weeks you will feel paid for getting up at four o'clock and having to plan everything, and you'll also find yourself feeling more capable than ever before. Try it this summer and see!

RUNNING WATER IN THE HOME.

Woman's work in the farm home would be much easier if there were at all times a good supply of water at hand. Carrying pails full of water is hard work for a woman, and with a water plant a few minutes' pumping each day would keep an abundance of water right on hand. I will mention some of the uses I would put such a plant to. In the first place, I would have a sink put in my kitchen, have the wash basin there with a pipe to carry away the dirty water instead of having to carry it out in a pail. Half the work of dish washing would be done away with, too, for when the meal was over I would pack the dishes in a pan in the sink and turn the hot water faucet until they were covered, let them stand while I brushed up the crumbs, then wash them at the sink, turn the water down the escape pipe, brush and rinse out my sink and the "awful job" is done. No heavy pans full of water to lift.

With running water in the home, I would turn a bed room into a bathroom, have a stationary tub and lavatory put in, and instead of looking forward to a lot of work whenever a person wanted to take a bath, it would be a delight with everything so convenient, just a couple of faucets to turn for hot and cold water and a pipe to carry the water away afterward.

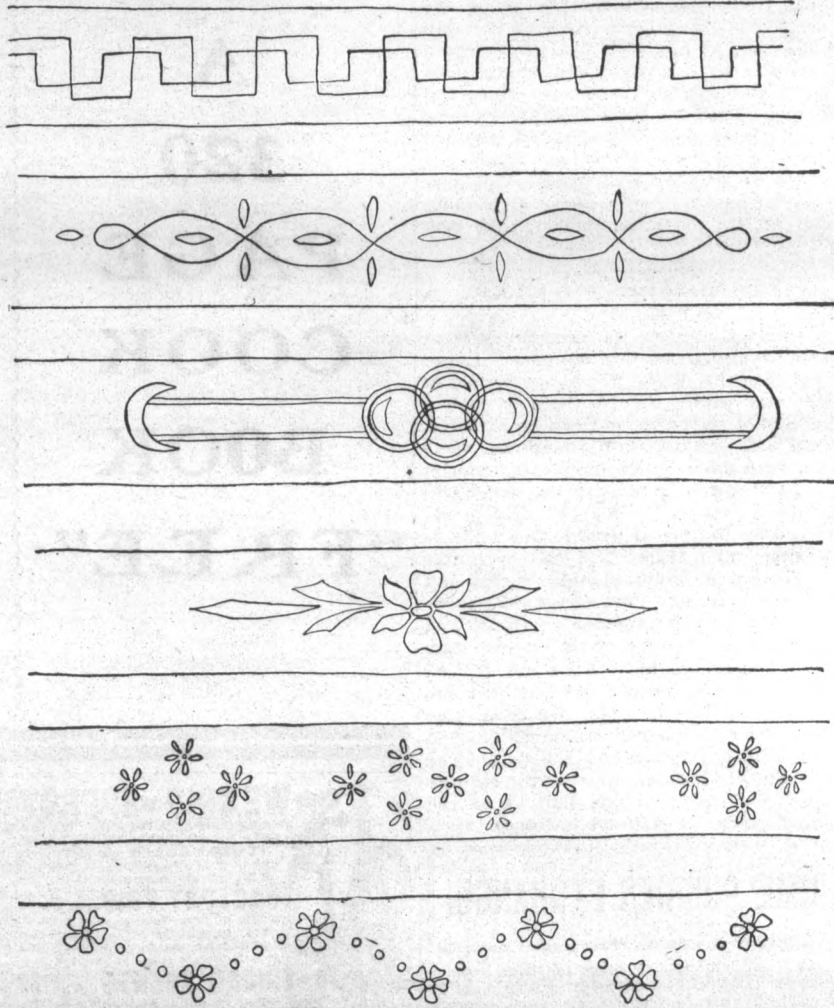
One of the things I would not have, is a bad cold after every weekly washday in winter, for there would be no opening of doors and running out for water, no need of going out until the clothes are all ready for the line.

If I had running water in my home I would have a hose attachment and my flowers would not suffer during a dry spell, for instead of tiring ourselves out carrying water, it would be a pleasure to water them with the hose.

Then, too, in case of fire the hose would be a blessing indeed. I will tell of an experience I had with fire that we will not soon forget.

One morning during last summer's drouth, I carried the ashes from the kitchen stove and emptied them in the fruit garden, east of the house. Looking out some time afterward I was horrified to see that the tall grass was fiercely blazing, and the fire spreading in all directions. I was alone at the time and my heart leaped into my throat. I knew that unless the fire was put out before it got into the timber there was no telling what damage it would do others as well as ourselves. There is standing timber on all sides of us and I could not expect the neighbors to see the trouble until it had got a big start, so I knew it was "up to me," as the boys say, to put that fire out. In less than a minute after I saw the blaze I was running to the well with two pails, but it seemed as if the pump never worked so slow, and I would spill part of the water before getting to the fire. I put out the flames as fast as I could, but everything was dry as powder and while I ran back for more water the fire would get another start. I was nearly frantic, and it was not until one of the boys, returning home, hurried to help me that we got it put out. I myself was soaked with water and so exhausted I could hardly stand.

If there had been running water it



Belts are Easily Embroidered. The Above Designs are Consecutively Numbered from One to Six.

would have been easy to put the fire out at the start with the hose, and have saved the fruit trees, grape vines, bushes, etc., that were killed by the fire. Their value would go a long way toward paying for a water plant.

These are a few of the uses to which I would put running water in the home and I think the time will come when an "up-to-date" farmer will no more think of having water carried into his home by the pail full than he would think of carrying it to his stock that way.

WHAT THE COOK SHOULD KNOW ABOUT BEEF.—No. 22.

BY MRS. ALTA L. LITTELL.

EVERYONE needs meat, because everyone needs protein and this is obtained most readily and in its most digestible form in flesh. And if everyone needs this sort of food, the cook who would do her whole duty needs to know all she can learn about it. First, in its favor, let her learn that it is more easily digested than vegetable foods, and while a pound of bread contains more nutriment than a pound of beefsteak it does not do the ordinary man as much good as the meat, for the latter is more easily digested and there is less waste in the body. Of a pound of meat taken into the human system, 96.7 per cent is assimilated under ordinary conditions, while only 94.4 per cent of white bread is retained and but 88.5 per cent of brown bread.

Meat is composed of fibrin, albumen, gelatin, fat, mineral matters and water. Albumen dissolves in cold water and is coagulated by hot, so this is why we put a piece of soup meat into cold water, but put meat in hot water if we wish to retain the juices in the meat itself. The albumen becomes solid at 160 degrees; therefore meat should be cooked at a low temperature in hot water, and not boiled madly. Because cold water dissolves the gelatine, i. e., takes out the juices, it should never be left in cold water, nor washed with a quantity of cold water. When it comes from the butcher's, remove it from the paper at once, wring a cloth out of cold water, wipe it clean and put it away in a cold place until ready to cook.

The principal meats used are beef, pork, veal and mutton. Of these beef is the most nutritious and the greatest favorite with most people. It is obtained from steers, oxen and cows, the best being steer beef. It should be bright red in color, and the suet should be dry and crumbly. In purchasing beef it is absolutely essential that the cook should understand the names of the different cuts and from what part of the animal they come, as well as their comparative nutritive value. The cuts vary in different markets, but the principal divisions are the same everywhere. The animal is first divided by splitting the back bone, giving rise to the term, a side of beef, and each side is divided into the flank, or abdomen, the rump, round, hind-shin, which is fine for soup bones and stock, and the loin and tenderloin, from which are cut the expensive steaks, sirloin and porterhouse. The forequarter includes the ribs, neck, rattle rand, brisket and fore-shin.

Perhaps no cut is a greater favorite than the porterhouse steak, though if cooking were a better understood art this might not be so as this prized piece of meat contains less nutrition than the neck and forequarter. But it is tender and contains a good bit of the tenderloin, which lies along the back bone, is easily and quickly cooked and brings a high price, which has, no doubt, much to do with its popularity. It is more tender than the round because it lies in a part of the animal where the muscles are little used and consequently are not hardened and coarsened. But this same disuse keeps from it nourishing qualities because the muscles which are most used contain the greatest amount of nourishing juices. The tougher cuts of meat, if cooked long and slowly, are more nourishing, though perhaps not so tempting to the appetite.

For broiling, a porterhouse or sirloin steak should always be chosen. The round is best braised, made into a cannon or into hamburger steak, or used in stews and beef tea. The flank is corned or boiled, the rump cut into roasts of varying degrees of goodness, the ribs cut into roasts, small steaks and stews, the neck used in hamburger steak and the rattle rand and brisket used for corning. The shins are used in soup, but a good beef loaf may be made from them by cooking slowly until tender, then putting the meat

through the food chopper and forming into a mold with the juice in which the meat was boiled. The gelatine from the shin will harden and form the loaf. Remember in boiling that if gelatin is boiled too long it will lose its power to solidify when it is cooled.

SHORT CUTS TO HOUSEKEEPING.

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

I find the sweet skim-milk from the separator excellent for starching turkey red garments. In cold weather it does not show on dark colored articles like frozen starch.—W. K. L.

If you are not able to sprinkle the clothes evenly try punching holes in a malted milk or baby food bottle; fill with warm water and sprinkle. The clothes will be evenly dampened.—E. C. H.

If the salt is mixed with the flour before the milk or water is added, in making the thickening for gravies, etc., it is easier to prevent lumpiness.—E. L. R.

Buy several packages of currants at a time, and wash altogether, using a colander and as many waters as necessary to thoroughly cleanse them. Rub in a dry towel and pick over for grit too large to go through the colander. Then dry and put away in fruit jars, or tin coffee cans. It is very convenient to have them ready when needed, and saves time.—J. C. T.

Keep a nail brush, small vegetable brush, or even a clean old tooth-brush near the sink to clean the nails and hands after mixing bread, cookies or pie crust.—M. M. N.

STYLES FOR EVERYBODY.

This is a season when the styles suit everybody. If you have a pretty throat and arms, low neck waists with Dutch collars and three-quarter length sleeves are the thing for you to wear. If your neck and arms are thin and scrawny, a high neck waist with full length sleeves are in exactly as good style.

THE MIDDY BLOUSE.

For girls of from 12 to 14 years of age a new style of dress is rather becoming. The skirt is pleated, and the blouse is as near like a sweater in style as it can well be, even to the roll on the bottom. It hangs from the shoulders to below the hips, straight and loose, without the sign of a gather at the waist. A pretty white suit made in this style had a low neck with a sailor collar banded in blue, and the fold about the bottom of the sweater blouse was of blue. Blue buttons trimmed skirt and blouse. These suits are becoming to growing girls whose lankiness of form needs concealment, or to younger children. On the miss, though, they look decidedly untidy.

A MODISH GINGHAM FROCK.

Seems as though the gingham were never so pretty as this summer. Large plaids are in high favor, especially in black and white, though there is such a diversity of colors anyone can be satisfied. Little white yokes, and sometimes white cuffs, with frills of lace or pleated muslin at throat and wrist add to the daintiness of these dresses. A becoming dress, planned by the proud owner, had a pleated skirt. The blouse had the inevitable white yoke, of embroidered muslin, and cuffs of the same. Three backward turning pleats at the shoulder in front, and three forward turning plaits corresponding with them in the back gave the desired fullness. The yoke was finished by three pipings of different color, old rose, blue and white and the same pipings finished the top of the collar and the belt. The dress buttoned down the back from the top of the collar to the bottom of the placket, with small pearl buttons.

HOME QUERIES EXCHANGE.

Dear Editor:—Can any of the housekeepers give a remedy for Buffalo bugs or carpet bugs? Please answer through the columns of the paper.—J. H.

Dear Editor:—Will someone please tell me a recipe for canning green peas?—Mrs. R. D., Pittsford.

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1 pound can Pure Baking Powder.....		.25	3 5c Packages Yeast Foam Dry Yeast.....		.15
5 pound package Extra Fancy Japan Rice.....		.40	3 Tall Cans Fancy Red Salmon.....		.50
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10 Bars Extra Large Size Laundry Soap.....		.50	3 pound packages seeded raisins.....		.35
1 4 pound package Washing Powder.....		.20	2 pound packages Cleaned Currants.....		.24
3 large size cans Lye.....		.25	1 gallon can Fancy Table Syrup.....		.75
1 8 oz. Can Fresh Ground Black Pepper.....		.25	1 gallon can High Grade Cooking Molasses.....		.75
1 8 oz. Can Fresh Ground Dry Mustard.....		.25	10 pound box Fancy Soda Crackers.....		1.00
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(Continued from page 42).

Rye.—The average estimated yield of rye in the state and central counties is 15, in the southern counties 14, in the northern counties 16 and in the upper peninsula 22 bushels per acre.

Corn.—The condition of corn in the state is 79, in the southern counties 78, in the central and northern counties 81 and in the upper peninsula 87.

Buckwheat.—The acreage of buckwheat sown or to be sown, compared with an average for the past five years in the state and southern counties is 81, in the central counties 79, in the northern counties 82 and in the upper peninsula 102.

Beans.—The acreage of beans planted or to be planted, as compared with an average for the past five years in the state is 96, in the southern counties 94, in the central counties 99, in the northern counties 97 and in the upper peninsula 100. The condition of beans, compared with an average in the state and southern counties is 92, in the central counties 93, in the northern counties 90 and in the upper peninsula 86.

Potatoes.—The condition of potatoes in the state and northern counties is 88, in the southern counties and upper peninsula 87 and in the central counties 90.

Sugar Beets.—The condition of sugar beets in the state is 89, in the southern counties 88, in the central counties 93, in the northern counties 86 and in the upper peninsula 79.

Clover.—The condition of clover sown this year, as compared with an average in the state is 87, in the southern counties 88, in the central counties 92, in the northern counties 80 and in the upper peninsula 85.

The acreage of clover that will be harvested, compared with an average for the past five years, in the state is 91, in the southern counties 93, in the central counties 94, in the northern counties 81 and in the upper peninsula 86.

Timothy.—The acreage of timothy that will be harvested, compared with an average for the past five years in the state and southern counties is 87, in the central counties, 91, in the northern counties 86, and in the upper peninsula 82.

Peas.—The acreage of peas sown or to be sown, as compared with an average for the past five years in the state is 89, in the southern counties 87, in the central counties 84, in the northern counties 90 and in the upper peninsula 111.

Fruit.—The prospect for the fruit crop is not very encouraging, owing to severe frosts and other unfavorable conditions in the early part of the season.

The prospect for a crop of peaches in the counties included in the Michigan fruit belt is as follows:

	Allegan	Berrien	Ionia	Kent	Ottawa	Van Buren	Muskegon	Newaygo	Oceana	Benzie	Leelanau	Manistee	Mason
Apples	42	41	40	41	41	41	41	41	41	41	41	41	41
Peaches	49	49	42	54	90	85	60	63	77	73	75	84	77
Pears	41	40	38	46	85	60	63	77	73	75	84	77	77
Plums	41	41	37	43	60	63	77	73	75	84	77	77	77
Orchards, per cent that are cultivated	41	34	41	61	63	77	73	75	84	77	77	77	77
Trees, condition of last spring's setting	79	73	75	84	77	73	75	84	77	77	77	77	77
Grapes	52	46	65	61	100	73	75	84	77	77	77	77	77
Black Raspb's.	72	71	73	75	95	73	75	84	77	77	77	77	77

Average for Michigan fruit belt, 1909.. 77

The following table of percentage gives the prospective averages in regard to fruit in the state and the different sections:

	State.	Southern counties.	Central counties.	Northern counties.	Upper Peninsula.
Apples	42	41	40	41	41
Peaches	49	49	42	54	90
Pears	41	40	38	46	85
Plums	41	41	37	43	60
Orchards, per cent that are cultivated	41	34	41	61	63
Trees, condition of last spring's setting	79	73	75	84	77
Grapes	52	46	65	61	100
Black Raspb's.	72	71	73	75	95

NATIONAL CROP REPORT.

The Crop Reporting Board of the Bureau of Statistics of the United States Department of Agriculture estimates, from the reports of the correspondents and agents of the Bureau, as follows:

The preliminary estimate of the area of corn planted is 114,083,000 acres, an increase of 5,312,000 acres (4.9 per cent) as compared with the final estimate of last year's acreage.

The average condition of the corn crop on July 1 was 85.4, as compared with 89.3 on July 1, 1909, 82.8 on July 1, 1908, and 85.1 the ten-year average on July 1.

The amount of wheat remaining on farms is estimated at 5.3 per cent of last year's crop, or about 38,739,000 bushels, as compared with 15,062,000 on July 1, 1909, and 38,708,000 the average amount on farms on July 1 for the past ten years.

The average condition of winter wheat on July 1, or when harvested, was 81.5 as compared with 80.0 last month, 82.4 at harvest, 1909, 80.6 in 1908, and 81.3 the average at time of harvest for the past ten years.

The average condition of spring wheat on July 1 was 61.6, as compared with 92.8 last month, 92.7 on July 1, 1909, 89.4 on July 1, 1908, and 87.1 the ten-year average on July 1.

The average condition on July 1 of spring and winter wheat combined was 73.5, against 85.2 last month, 86.5 on July 1, 1909, 83.9 July 1, 1908, and 84.0 the ten-year average on July 1.

The average condition of the oat crop on July 1 was 82.2, as compared with 91.0 last month, 88.3 July 1, 1909, 85.7 July 1, 1908, and 86.6 the ten-year average on July 1.

The average condition of barley on July 1 was 73.7, as compared with 89.6 last month, 90.2 on July 1, 1909, 86.2 on July 1, 1908, and 88.1 the ten-year average on July 1.

The average condition of rye on July 1 was 87.5, as compared with 90.6 last month, 91.4 on July 1, 1909, 91.2 on July 1, 1908, and 90.4 the ten-year average on July 1.

The acreage of white potatoes is estimated at 3,521,000 acres, or 4,000 acres (0.1 per cent) less than last year. The condition of the crop on July 1 was 86.3 as compared with 93.0 on July 1, 1909, 89.6 on July 1, 1908, and 90.9 the ten-year average on July 1.

The acreage of tobacco is estimated at 1,216,000 acres, or 35,700 acres (3.0 per cent) more than last year. The condition of the crop on July 1 was 85.3, as compared with 89.8 on July 1, 1909, 86.6 on July 1, 1908, and 86.3 the ten-year average on July 1.

The acreage of flax is estimated at 3,103,000 acres, or 361,000 acres (13.2 per cent) more than last year. The condition of the crop on July 1 was 65.0, as compared with 95.1 on July 1, 1909, 92.5 on July 1, 1908, 91.2 on July 1, 1907, and 91.1 the average on July 1 for seven years.

The average condition of the hay crop on July 1 was 80.2, as compared with 86.1 last month, 87.8 on July 1, 1909, and 92.6 on July 1, 1908. The condition of timothy on July 1 was 79.2, as compared with 87.1 on July 1, 1909, 90.2 on July 1, 1908, and 85.4 the ten-year average on July 1. The condition of clover on July 1 was 82.8, as compared with 83.8 on July 1, 1909, 95.5 on July 1, 1908, and 84.6 the ten-year average on July 1.

CROP AND MARKET NOTES.

Emmet Co., July 1.—Only one light shower since June 1. Pasture getting short and crops not cultivated beginning to show lack of moisture. The strawberry harvest in full tide. Prices are ruling low in spite of the fact that the crop is cut short by the drought. There is an occasional good field of hay to be seen, but the crop will be generally short; corn and potatoes doing well.

Mecosta Co., July 8.—Have not had any rain for about six weeks, worth mentioning, and the oat crop especially is showing it badly. Hay was damaged by the drought but is all cut and in at this writing. Was a short crop. Potatoes and corn look well. Wheat is the best it has been for years, due to the wet weather in May. It will be ready to cut in about a week. Rye looks well. Pasture is getting poor for the want of rain.

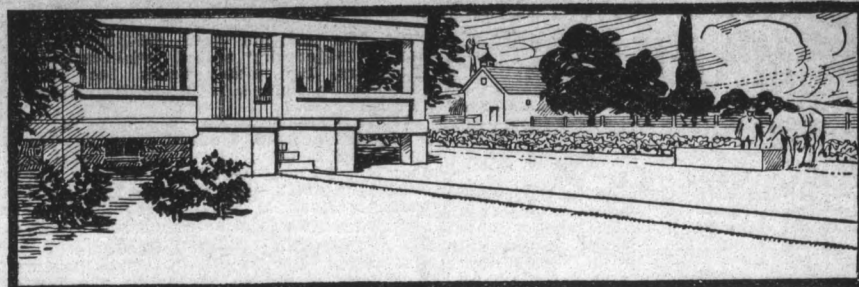
Ottawa Co., July 9.—Severe drought still continues. Corn, potatoes and pastures are suffering for the want of rain. Corn on clay or light sand is past redemption. Many farmers are obliged to feed their stock on account of shortage of pastures. This is something uncommon so early in the season. The dry weather is making farmers hustle, with corn cultivating, haying and wheat harvest all coming on in a bunch. Some meadows are very good, while others are very light. Wheat will be a fairly good crop, and oats promise better than they did earlier in the season. For some reason apples are dropping badly, so the crop will be a very light one all through this section. All small fruits are drying up on the bushes, and grapes will be a minus quantity. Farm help is rather scarce, so that most of the farmers have to put in long days. There is one advantage in the dry weather, as hay so far has been secured in fine condition.

Kent Co., July 7.—The rain yesterday was worth thousands of dollars to this county. Much good hay gotten in during the excellent haying weather which has prevailed during the last two weeks. Some wet by the recent rain but not greatly damaged. Early wheat is yellow and nearly ready for the binder. The oat crop headed nearly two weeks ahead of its season, and the crop will be considerably shortened, especially on light soils, by the drought. Early potatoes have also suffered but the damage to the crop can not yet be judged. Potato bugs are numerous, but the insect which destroyed many of them last year has been reported in various sections and hopes are entertained of its ultimate success in destroying this year's bug crop.

Hardin Co., Ohio, July 5.—July starts in hot and dry; cool wave the 4th. Farmers busy plowing the late corn and making hay. No wheat or rye cut yet. The hay is short generally. Oats are fair. The late corn is doing well considering the dry weather. Pasture is getting short for this time of the year.

Carroll Co., Ohio, July 7.—Farmers are busy harvesting clover and wheat. Both will make a fair crop. Timothy is a poor crop this year. Some farmers are trying to grow alfalfa this year. Potatoes are looking good but there are lots of potato bugs this year. Butter, 20c; eggs, 20c; young chickens, 20c lb; old chickens, 12c lb. We had a nice shower today.

Milwaukee Co., Wis., July 7.—Weather conditions for the past three or four weeks have been very peculiar. The month of June has been abnormally hot and dry, only about 0.3 to half an inch of rain within four or five weeks time and a terrific heat existing for 10 to 14 days. Strawberry crop proved to be only about 25 to 30 per cent of a crop, due to the droughty conditions prevailing; not a drop of rain for nearly three weeks. Apple crop looks now to be only a 20 per cent crop, due to abnormally dry weather. The June drop proved unusually heavy. The fruit crop is, practically speaking, a flat failure this year. Late planted potatoes look quite well in spite of dry weather, whereas early planted show some wilt, especially on heavy soils and high ground. Haying commenced and will prove a short crop except new seeding, where it is heavy. Grain crops will be light unless we have soaking rains soon. Corn, on the whole, looks well, where it has been well tilled, otherwise poor and stunted and thin stand. No currants, gooseberries nor cherries here this year. Even the Black Caps are drying up on the bushes. Everybody is waiting for delivery of these conditions. No late cabbage planted here yet, to speak of. Some are planting with water, which is getting short in some places.



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MARKETS

DETROIT WHOLESALE MARKETS.

July 13, 1910.

Grains and Seeds.

Wheat.—A stronger tone has pervaded the wheat trade this week. There is an improved demand for cash wheat, which seems to be a harder thing to get than one would expect. In the northwest there were rains on Monday and Tuesday, and the market was influenced a little thereby, but the damage from the drought is so large that moisture cannot fully amend at this date. The farmers of the southwest are marketing their wheat quite liberally and are likely preventing larger advances by doing so. While the supply and demand generally rule, the attitude of the farmers of the country toward the deal will have considerable to do with the price-making this season. Liverpool is strong. Canadian outlook is not as promising as a few weeks ago. Visible supply shows a small decrease. One year ago the price for No. 2 red wheat was \$1.38 per bu. Quotations for the week are:

	No. 2	No. 1	Red	White	Sept.	Dec.
Thursday	1.03½	1.03½	1.03½	1.05½		
Friday	1.04	1.04	1.04	1.05½		
Saturday	1.06	1.06	1.06½	1.08		
Monday	1.05½	1.05½	1.04½	1.06½		
Tuesday	1.06	1.06	1.05	1.06½		
Wednesday	1.05	1.05	1.04½	1.06		

Corn.—Better prices ruled this past week than for the previous period, and the reason is that dry weather was beginning to have an effect upon the growing crop in spite of the unusual amount of cultivating that the farmers are doing to bring the crop through. The advance of wheat was also a factor in advancing the values. The local market is quiet and but little grain is changing hands just now. The visible supply is smaller. One year ago the price for No. 3 corn was 75c per bu. Quotations for the week are as follows:

	No. 2	No. 3	Mixed	Yellow
Thursday	63½	65		
Friday	63½	65		
Saturday	63½	65		
Monday	63	64½		
Tuesday	63	64½		
Wednesday	63½	65		

Oats.—This grain has improved with corn and wheat. The weather has been trying on the developing plant and there was much comment about damage to it. The rains will improve the outlook but no doubt permanent damage is already done that cannot be overcome. Trading here is light. Demand is fair. The visible supply is a few thousand bushels short of the amount given out last week. A year ago the price for No. 3 oats was 54c per bu. Quotations for the week are:

	Standard	Sept.
Thursday	41½	40
Friday	42	40
Saturday	43	40½
Monday	43	39½
Tuesday	43	39½
Wednesday	43½	39½

Beans.—This deal bears its usual unchanged features and the nominal quotations of the board are the same for cash with an advance of three cents for October options. According to the statements of the state crop reports the amount of beans planted this season compares with the average for previous years and the condition of the crop is well up to those of former seasons. The following are the nominal quotations for the past week:

	Cash	Oct.
Thursday	\$2.22	\$2.05
Friday	2.22	2.05
Saturday	2.22	2.05
Monday	2.22	2.05
Tuesday	2.22	2.05
Wednesday	2.22	2.05

Cloverseed.—Farmers have been more hopeful of a large crop of seed than they are at the present time, although the fields may yet give a good account of themselves. The recent rains will be helpful in bringing on cloverfields that are to be left for a crop of seed this fall. There is nothing doing in cash seed and futures are not exciting very much interest just at this time. Quotations for the week are as follows:

	Prime Spot	Oct.
Thursday	\$7.00	6.85
Friday	7.00	6.85
Saturday	7.00	6.85
Monday	7.00	6.90
Tuesday	7.00	6.85
Wednesday	7.00	6.85

Rye.—There is nothing doing in rye. The nominal quotation is 78c per bu., which is the price of a week ago.

Visible Supply of Grain.

	This week	Last week
Wheat	11,613,000	12,034,000
Corn	4,743,000	5,224,000
Oats	4,007,000	4,245,000
Rye	361,000	378,000
Barley	1,444,000	1,443,000

Flour, Feed, Provisions, Etc.

Flour.—The flour trade is down, prices having been marked off from 40¢ to 60¢ per bu. Quotations are:

Clear	\$4.60
Straight	4.80
Patent Michigan	5.10
Ordinary Patent	4.90

Hay and Straw.—All grades steady at last week's figures. Quotations on baled hay in car lots f. o. b. Detroit, are: No. 1 timothy, \$17.50@18; No. 2 timothy, \$15.50@16; clover, mixed, \$15.50@16; rye straw, \$7@7.50; wheat and oat straw, \$6.50@7 per ton.

Feed.—Bran is off \$2 and coarse middlings \$1 per ton. Other grades are steady. Carlot prices on track: Bran, \$23 per ton; coarse middlings, \$24; fine middlings, \$27; cracked corn, \$27; coarse corn meal, \$27; corn and oat chop, \$24 per ton.

Potatoes.—The old crop is practically out of the market and no quotations are given. New potatoes are arriving in liberal quantities and selling well. They are quoted at \$1.50@2 per bbl.

Provisions.—Mess pork, \$25; family pork, \$26; medium clear, \$25@26; smoked hams, 19½¢; dry salted briskets, 14½¢; shoulders, 15¢; picnic hams, 14¢; bacon, 13¢; lard in tierces, 12½¢; kettle rendered, 14½¢ per lb.

Hides.—Steady. No. 1 cured, 9¢; No. 1 green, 7½¢; No. 2 cured bulls, 8¢; No. 2 green bulls, 6½¢; No. 1 cured veal kip, 10¢; No. 1 green veal kip, 8¢; No. 1 cured calf, 14¢; No. 2 kip and calf, 12½¢; No. 1 horsehides, \$3.50; No. 2 horsehides, \$2.50; sheepskins, as to amount of wool, 20¢@60¢.

Dairy and Poultry Products.

Butter.—The drying up of the pastures has been a bullish factor in the butter trade, and the amount of butter manufactured is short of what was made earlier in the season. This has made a stronger market and creamery goods have advanced a half a cent for the week. Dairy goods are marked down a cent. The following are the local quotations: Extra creamery, 28¢; firsts, do., 27¢; dairy, 22¢; packing stock, 21¢ per lb.

Eggs.—There has been a good active demand for eggs this past week and the price is where it was seven days ago with a rather strong undertone. Offerings are not large. Fresh eggs, case count, cases included, are quoted at 17½¢ per dozen.

Poultry.—Broilers are not selling so high and hens are a half cent more than last week. The market is active. Quotations are: Broilers, 22¢@24¢; hens, 16¢; old roosters and stags, 12¢; ducks, 15¢; geese, 11¢@13¢; turkeys, 16¢@16½¢ per lb.

Cheese.—Michigan, late made, 15¢; Michigan, fall made, 17½¢@18¢; York state, 18¢@18½¢; limburger, old, 17¢@18¢; Swiss, domestic block, 23¢@24¢; cream brick, 16¢@16½¢.

Calves.—Steady. Choice to fancy, 11¢@11½¢; ordinary, 10½¢.

Fruits and Vegetables.

Apples.—The only old apples left are a few Steel Reds. New offerings are selling at \$1.50@1.75 per hamper. Steel Reds are quoted at \$6.50@7 per bbl.

Cabbage.—Steady. Selling at \$1.25@1.75 per crate for new.

Currents.—Reds selling here at \$3@3.50 per bu.

Raspberries.—Offerings are increasing. Crop is not large. Reds are quoted at \$2.25 per 24-pt. case; blacks, \$2@2.25.

Blackberries.—Market lower. Offerings few. Selling at \$3.50 per 24-pt. case.

Huckleberries.—Selling at \$4.25 per 24-pt. case.

Gooseberries.—Quoted at \$2.75@3 per bushel.

Cherries.—Scarce than a week ago. Now selling at \$3@3.25 per bu. for sour.

Sweet. \$4@4.50 per bu.

Vegetables.—Beets, 35¢ per doz; carrots, 25¢ per doz; cucumbers, 60¢@75¢ per doz; eggplant, \$1.25@1.50 per doz; green onions, 10¢@12¢ per doz; head lettuce, 75¢@90¢ per bu; mint, 25¢ per doz; parsley, 20¢@25¢ per doz; radishes, 15¢ per doz; spinach, 65¢ per bu; turnips, 40¢ per doz; watercress, 20¢@25¢ per doz; wax beans, \$2 per bu; pieplant, 20¢ per doz; asparagus, \$1@1.25 per doz.

OTHER MARKETS.

Grand Rapids.

Offerings of fruit and vegetables were large on the city market Tuesday morning. Cherries were high, starting at \$3 per bu. and going from this up to \$3.45. Black raspberries readily brought \$1.75, while red raspberries ranged from \$2.10@2.75 per 16-qt. crate. Gooseberries sold at \$1.25 for 12 qts. First harvest apples appeared, bringing 50¢ per bu. No home-grown potatoes are reported yet, but they are almost due. New hay is coming, and ranges from \$12@15. Eggs are of poor quality, owing to hot weather and lateness of season. The price to the country trade is off to 17½¢. Good dairy butter is a little higher, bringing 22¢, while packing stock is worth 20¢. Creamery butter is up half a cent, this week's quotation being 28¢. Veal is worth 6¢@10¢; dressed hogs, 11¢@11½¢. Wheat is up 1¢, the mills paying \$1.01, with other grains practically unchanged.

Chicago.

Wheat.—No. 2 red, \$1.04½@1.05½; July, \$1.05; September, \$1.03½.

Corn.—No. 2 mixed, 59½¢@60¢; July, 58½¢; September, 59¢.

Oats.—No. 3 white, 41½¢@43¢; July, 40½¢; September, 38½¢.

Butter.—Best creamery butter advanced ¼¢ on Tuesday on the strength of a similar advance at Elgin. Quotations are: Creameries, 24½¢@28¢; dairies, 23¢@26¢.

Eggs.—Prices are off a full cent on best stock, and more on lower grades; business rather slow in spite of the decline in values. Prime firsts, 17¢; firsts, 15¢; at mark, cases included, 10¢@14¢ per dozen.

Hay and Straw.—The market has been materially strengthened by the continued dry weather. All grades of both hay and straw are anywhere from \$1 to \$2 higher. Quotations are: Choice timothy, \$20@20.50; No. 1 timothy, \$18.50@19.50; No. 2 do. and No. 1 mixed, \$17@18; No. 3 do. and No. 2 mixed, \$13.50@16.50; rye straw, \$9@10; oat straw, \$7@8; wheat straw, \$6.50@7.

Potatoes.—Demand growing better as the quality of receipts improves, and prices are slightly higher than last week. Choice to fancy new, 70¢@75¢ per bu; fair to good, 60¢@65¢.

Beans.—Trade quiet with prices unchanged. Choice hand-picked are quoted at \$2.33@2.38; fair to good, \$2.23@2.28; red kidneys, \$2.75@3 per bu.

Wool.—Market quiet with prices showing no change. Fine delaine, unwashed, 20¢@22¢; fine medium, 22¢@24¢; medium, 23¢@25¢.

Boston.

Wool.—Quotations are steady. The parties to the market are in the same attitude as they have been for some time past and there is nothing to indicate that a change will occur soon. Farmers will not sell and buyers will not buy at the prices asked and offered. In London the July auctions have been progressing with a strong demand for the offerings; some of the poorer grades are lower but the majority of the sales are going at steady prices. Quotations here for the leading

domestic kinds are as follows: Ohio fleeces—Quarter bloods, 27¢; three-eighths 28¢; half blood, 28¢; fine unwashed, 21¢; unwashed delaine, 26¢; other grades nominal. Michigan fleeces—Prices nominal at 19¢@20¢ for fine unwashed, 23¢@24¢ for unwashed delaine, and 25¢@26¢ for quarter blood.

New York.

Butter.—Market steady under fractionally higher values on creamery grades. Creamery specials quoted at 29¼¢@29½¢; process butter, 22¢@25½¢ per lb.

Eggs.—Market has recovered from last week's sharp decline in values and is firm. Nearby eggs are quoted at 24¢@28¢; fresh gathered extras, 21¢@22¢; firsts, 19½¢@20½¢ per dozen.

Poultry.—Market generally steady; broilers 2¢ lower. Live quoted as follows: Western fowls, 17¢@17½¢; western broilers, 23¢@24¢; turkeys, 10¢@14¢ per lb.

Elgin.

Butter.—Market is firm at 28¢ per lb., which is an advance of ¼¢ over last week. The sales for the week amounted to 1,076,334 lbs., compared with 1,098,500 lbs. for the week previous.

THE LIVE STOCK MARKETS.

Buffalo.

July 11, 1910.

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

Receipts of stock here today as follows: Cattle, 165 cars; hogs, 8,800; sheep and lambs, 5,400; calves, 1,800.

One hundred and sixty-five cars of cattle on sale here today, and Chicago reports 22,000 and lower. Our market for all the best grades of cattle was barely steady and in many instances 10¢ per hundred weight lower, and cows, slippery steers, light heifers and bulls sold steady to 10¢ higher. Light butcher cattle 15¢@25¢ higher. All the cattle of the class of 6c a pound and upward all sold from barely steady to 10¢ per hundred weight lower than last week. The top on cattle today was the same as last week, but the quality was much better.

We quote: Best 1,350 to 1,500-lb. steers \$7.75@8; good prime 1,200 to 1,350-lb. do., \$7.25@7.60; best 1,100 to 1,200-lb. shipping steers, \$6.50@7.25; medium butcher steers, 1,000 to 1,100 lbs., \$5.50@6; light butcher steers, \$5@5.40; best fat cows, \$5.25@5.75; fair to good cows, \$4.25@4.75; common to medium do., \$3@3.75; best fat heifers, \$6@6.75; good fat heifers, \$5@5.50; fair to good do., \$4.25@5; stock heifers, \$3.50@3.75; best feeding steers, \$4.50@4.75; medium to good do., \$4@4.25; stockers, all grades, \$3.50@3.75; best bulls, \$5.25@5.50; bologna bulls, \$4@4.50; light thin bulls, \$3.50@4; best milkers and springers, \$45@55; common to good do., \$25@35.

A few prime bulls would have brought \$5.75. A few extra good cows sold for \$60. A good many Chicago cows on our market today, milkers and springers, and cows were from \$3@5 lower than last week.

Hog market opened about steady at Saturday's best early market, and closed steady on light hogs, and dull and draggy on heavy and mixed, and bidding 5¢@10¢ lower than morning prices.

We quote morning price as follows: Mixed hogs from 170 to 200 lbs. av., \$9.60; hogs weighing 225 to 250 lbs., \$9.40@9.50; yorkers, \$9.75@9.85; pigs and lights, \$9.80@10; roughs, \$8@8.10; stags, \$6.50@7.

The lamb market opened slow and 50¢ lower today, with most of the best spring lambs selling from \$8@8.50; yearling lambs, \$6@6.50. Few going over unsold; look for steady market balance of week.

Sheep market was steady today; look for steady prices balance of week on sheep. We quote: Spring lambs, \$8@8.50; wethers, \$5@5.60; cull sheep, \$2.50@3.50; yearlings, \$6@6.50; ewes, \$4.25@4.50; bucks, \$2.50@3; veals, choice to extra, \$9.25@9.50; fair to good do., \$8@9; heavy calves, \$5@6.

Chicago.

July 11, 1910.

Cattle, Hogs, Sheep
Received today 24,000 35,000 35,000
Same day last year..... 23,621 32,758 18,162
Received last week..... 39,927 62,132 90,359
Same week last year..... 44,022 118,711 85,435

A new week opened today with too generous supplies of all kinds of live stock and sharp breaks in prices all along the lines. Following last week's break of 15¢@25¢ in steers, there was a further decline of 10¢@15¢, and even greater reductions were made in some cases, the best selling at \$8.50. Female cattle, which advanced 15¢@25¢ for good lots last week, did not weaken as much as steers, being in better request. Hogs, which closed last week 10¢@25¢ lower than a week earlier, took an additional fall of 15¢@25¢; selling at \$8.10@9.25, the high prices being paid at the start for prime light hogs and pigs. Packers filled their orders much under \$9, and the market was dull and weak at the decline, the opinion being expressed that stockmen were marketing supplies in fear of further bad breaks in prices. Hogs marketed last week averaged in weight 244 lbs., compared with 242 lbs. a week earlier, 225 lbs. a year ago, 222 lbs. two years ago and 232 lbs. three years ago. Sheep and lambs were demoralized, the market being glutted with stock from Idaho ranges, and further declines of 25¢ took place. Lambs sold at \$4@7.25, wethers at \$4@4.50, ewes at \$2@4.25, and yearlings at \$4.25@5. Breeding ewes went freely at \$4@5.75. Continued heavy receipts and lower prices are expected.

Cattle, as well as other kinds of live stock, were affected last week by the break in business resulting from the Fourth of July holiday on Monday. Receipts of cattle during the week were very moderate in volume, and the early market developed great strength under the influence of an active general demand. The greatest strength by far was shown in fat female stock, prices moving up 10¢@25¢, with heifers 25¢@40¢ higher and canners steady. Buyers soon got their most pressing orders filled, however, and despite the week's light supplies, prices declined sharply all along the line, except

for prime steers and heifers. A large share of the week's sales of beef steers took place at \$6.25@8.15, with the commoner class of light-weight grass-fed natives going at \$5@6 and the better class of strong weight shipping beefs finding buyers at \$8@8.60. A good grade of steers sold at \$7.50 and upward and medium lots at \$7 and over, while fair, rather light killers sold between \$6 and \$7. A good many distillery cattle sold at \$7.20@8.55, while Texas cattle had a large sale at \$4.50@7, and sixteen cars of Wyoming range grass cattle arrived Wednesday, being the second large shipment of the season. These cattle were poor in quality, showing evidence of the dry state of the range, and the cows sold at \$3.40@4.25, while a load of feeders brought \$5.10 and steers went to killers at \$6.20. Native cows and heifers sold during the week at \$3.90@6.65, with canners and cutters selling at \$2.50@3.85 and bulls at \$3@5.75. Calves were much scarcer and decidedly higher under an active demand, selling at \$3.50@9, but milch cows were slow at \$25@60 per head, the heat being unfavorable for a normal movement. Stockers and feeders were active and higher early and slower and lower later. Stockers went at \$3.10@5.15 and feeders at \$4.50@5.70.

Hogs sold last week at much the widest spread in prices witnessed this season, with buyers discriminating more than ever against the heavier hogs, especially lots of coarse heavy sows that have weaned their spring pigs. Early meager receipts brought about some pretty stiff advances in prices, prime light hogs selling up to \$9.60 on Wednesday, but subsequently large breaks took place in spite of the continued light receipts. As a rule, the best hogs were taken first at relatively firm prices, shippers taking their pick, and after outside orders were filled the local packers would enter the market and buy up the commoner offerings at reduced figures, even Tuesday and Wednesday seeing lower closings. There was an especially good demand for good lots of light hogs, which sold at a nice premium, with medium butcher weights ranking next, but strong weight pigs, which were scarce and in urgent request, went highest of all. The explanation of this is the urgent need of hogs for the fresh meat trade and for conversion into bacon. The packers kept a close watch on the provision market at all times, and they were uneasy lest the lower hog values would further lessen the receipts. Eastern shippers were much smaller buyers than in former years, and this exerted a bearish influence.

Sheep and lambs started off last week with such a small Tuesday run that buyers were compelled to pay stiff advances, especially for the best lots, and prime native lambs brought \$8.60. On Wednesday the market was literally glutted, the receipts running up to 29,265 head, following 13,699 on Tuesday, and prices had bad breaks, followed by further reductions later in the week. Oregon, Washington, Idaho and other ranges have been rushing sheep, yearlings and lambs to market, while the Chicago packers continued to receive liberal supplies of southern spring lambs consigned direct to them from Louisville getting as many as 9,000 head in a single day, and these consignments could not but exert a strong bearish influence upon the lamb market. Range offerings were largely made up of sheep and lambs hardly fat enough to satisfy the mutton trade, and many lots went to feeders and some to breeders.

Horses have been selling as freely as is usual at the mid-summer period, with ample offerings and sales at the lowest prices recorded this year. Expressers and wagon horses sold mostly at \$160@210 per head, while big draft chunks of good to choice quality found purchasers at \$225@250 and upward. Feeders were in fair demand at \$170@225 for shipment to Ohio, and drivers sold moderately on the basis of \$150@300. The recent market was given spice by the sale of a consignment of high-class carriage horses to export to Mexico, and a little later sales were made of 14 prime carriage horses and drafters for export to Guatemala, the carriage horses bringing \$800@1,400 per head.

LIVE STOCK NOTES.

The big ranches in Texas are disappearing before the inroad of new settlers, and small farms are being cut out of the old-time vast ranches that covered the greater part of the state. The Swensons have cut their famous Spur ranch into farms, after selling their enormous holdings of cattle, the tract covering about 650 square miles. A large part of the Panhandle has been plowed up and devoted to grain and other crops, and there is a gradual movement in the direction of raising cattle for the market, but it is probable that a long time will take place before Texas increases its cattle herds to former proportions. The same movement goes on all the time in the northwest, the conversion of former ranges into farms going forward faster than ever, and the immediate effect in both regions is to materially decrease the cattle supply. Ranchmen find that settling up the country restricts the grazing area so much and cuts off so much of the water supply that raising cattle becomes extremely difficult.

The Texas agricultural experiment station has made some extensive experiments in feeding cottonseed to hogs, and encouraging results were obtained with fermented meal. A comparison of the results of experiments in which cottonseed meal was fed in the ordinary way indicates that cottonseed meal may be used in larger quantities and for longer periods when fermented and fed in slop. The hogs fed cottonseed meal showed less fat and more lean meat than others, and the carcasses were firmer and better than those of hogs fed exclusively on corn. The experiments were made by feeding a mixture of cottonseed meal and corn.

With average rains, there is promise of an immense crop of corn in Nebraska. Hay is a short crop, the first cutting of alfalfa being particularly poor. Nearly all the Nebraska fat cattle have been marketed, but there are lots of spring pigs.

THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

July 14, 1910.

Cattle.

Receipts, 1,260. Market very dull Saturday; 75c lower than last week. Run heavy.

We quote: Extra dry-fed steers and heifers, \$6@6.10; steers and heifers, 1,000 to 1,200, \$4.75@5.50; steers and heifers, 800 to 1,000, \$4.50@4.75; grass steers and heifers that are fat, 800 to 1,000, \$4.50@4.75; grass steers and heifers that are fat, 500 to 700, \$4.25@4.50; choice fat cows, \$4.25@4.50; good fat cows, \$4; common cows, \$3@3.25; canners, \$2.50@2.75; choice heavy bulls, \$4@4.25; fair to good bolognas, bulls, \$4; stock bulls, \$3.50; choice feeding steers, 800 to 1,000, \$4.50; fair feeding steers, 800 to 1,000, \$4.25; choice stockers, 500 to 700, \$4; fair stockers, 500 to 700, \$3.50@3.75; stock heifers, \$3.50; milkers, large, young, medium age, \$40@50; common milkers, \$25@35.

Roe Com. Co. sold Frann 10 butchers av 657 at \$4.15; to Cohen 3 do av 950 at \$4; to Goose 5 do av 606 at \$4.1 cow weighing 1,130 at \$3.40; to Mich. B. Co. 17 steers av 863 at \$5.50, 25 butchers av 782 at \$4.90; to Sullivan P. Co. 18 do av 635 at \$4.15; to Fry 24 do av 700 at \$4.50.

Bishop, B. & H. sold Hammond, S. & Co. 29 steers av 1,050 at \$6, 2 do av 1,135 at \$5; to Cooke 26 do av 947 at \$5.50, 1 bull weighing 1,250 at \$4.50; to Rattkowsky 3 butchers av 483 at \$3.50, 4 do av 770 at \$4.10, 4 do av 865 at \$4.35; to Marx 5 do av 674 at \$4.50; to Goose 3 cows av 820 at \$3; to Thompson Bros. 4 do av 710 at \$3.40; to Sullivan P. Co. 8 butchers av 562 at \$3.40; to Newton B. Co. 2 do av 860 at \$3.25, 6 do av 1,000 at \$5.40, 3 do av 616 at \$4.25, 3 steers av 1,073 at \$6.25; to Townsend 24 feeders av 750 at \$4.15; to Mich. B. Co. 14 steers av 957 at \$5.65, 11 cows av 1,123 at \$5; to Newton B. Co. 4 butchers av 947 at \$4, 6 do av 840 at \$4.75, 8 do av 1,084 at \$5.75, 4 do av 925 at \$4.50, 23 do av 765 at \$4.60, 11 do av 715 at \$3.65.

Haley & M. sold Goose 4 cows av 1,210 at \$4.40; to Mich. B. Co. 19 butchers av 976 at \$4.50, 5 do av 814 at \$4.75, 10 steers av 845 at \$5.30, 1 bull weighing 750 at \$4; to Sullivan P. Co. 2 canners av 690 at \$2.50, 13 steers av 921 at \$5.50; to Bresnahan 35 stockers av 592 at \$3.95; to Pragg 2 butchers av 460 at \$4; to Applebaum 7 do av 860 at \$4.40, 5 do av 674 at \$4.35; to Sullivan P. Co. 1 steer weighing 850 at \$4.75; to Lachalt 6 butchers av 805 at \$4.65, 3 do av 770 at \$4.10; to Thompson Bros. 15 do av 720 at \$3.90.

Spicer & R. sold Bresnahan 4 heifers av 650 at \$4.35; 2 cows av 1,000 at \$3.65, 2 do av 835 at \$2.75, 3 do av 933 at \$2.75, 6 do av 1,033 at \$4; to Mich. B. Co. 30 steers av 746 at \$5.50, 30 do av 823 at \$5, 21 butchers av 771 at \$4.50; to Goose 6 cows av 861 at \$3.60, 4 heifers av 762 at \$4.50, 4 cows av 1,007 at \$4.15, 2 do av 810 at \$3.25, 4 heifers av 345 at \$4, 8 cows av 856 at \$5; to Sullivan P. Co. 7 butchers av 850 at \$4.40; to Townsend 4 stockers av 587 at \$4.40; to Goose 2 cows av 1,025 at \$3.25; to Mich. B. Co. 2 bulls av 1,350 at \$4.50, 1 do weighing 990 at \$4, 16 butchers av 881 at \$5.30; to Kamman B. Co. 31 do av 800 at \$5, 10 do av 765 at \$4.65; to Rattkowsky 15 do av 736 at \$4.65; to Bresnahan 2 bulls av 960 at \$4, 23 steers av 961 at \$5.50, 1 cow weighing 870 at \$2.75; to Rattkowsky 3 do av 857 at \$4; to Regan 4 butchers av 670 at \$4.25, 7 do av 590 at \$4.10; to Breitenback Bros. 2 cows av 950 at \$4; to Golden 5 butchers av 748 at \$4.40; to Lachalt 3 bulls av 1,143 at \$4.40; to Sullivan P. Co. 17 steers av 987 at \$5.75, 5 cows av 1,034 at \$5, 1 bull weighing 1,080 at \$4, 8 heifers av 647 at \$4.25.

Johnson sold Marx 10 butchers av 825 at \$4.50.

Wickmann sold same 6 do av 908 at \$5.25, 2 cows av 1,175 at \$3.75.

Weeks sold Mich. B. Co. 22 steers av 902 at \$5.15.

Veal Calves.

Receipts, 1,025. Market 25@50c higher than last Thursday. Best, \$9@9.25; others, \$4@8.50; milch cows and springers steady.

Bishop, B. & H. sold Hammond, S. & Co. 3 av 170 at \$9.25, 3 av 170 at \$9.75, 3 av 105 at \$8, 5 av 125 at \$7, 17 av 160 at \$9.25, 2 av 130 at \$7, 8 av 160 at \$9.25; to Burnstine 26 av 170 at \$9, 6 av 150 at \$8.50; to Newton B. Co. 14 av 135 at \$9; to Sullivan P. Co. 10 av 175 at \$7, 18 av 165 at \$9.25, 16 av 170 at \$9.50.

Haley & M. sold Gordon & B. 5 av 250 at \$6.50, 12 av 140 at \$8; to Hammond, S. & Co. 1 weighing 190 at \$9.25, 5 av 180 at \$9; to Thompson Bros. 29 av 150 at \$8.50, 8 av 150 at \$8.50; to Gordon & B. 2 av 250 at \$6, 26 av 170 at \$9; to Mich. B. Co. 21 av 160 at \$9.50.

Roe Com. Co. sold Hammond, S. & Co. 2 av 100 at \$7.50, 21 av 170 at \$9.25; to Parker, W. & Co. 23 av 165 at \$9; to Hammond, S. & Co. 1 weighing 170 at \$9.

Spicer & R. sold Hammond, S. & Co. 2 av 150 at \$8.50, 5 av 165 at \$8.75, 4 av 145 at \$8.25, 10 av 150 at \$8.25; to Mich. B. Co. 4 av 150 at \$7, 11 av 165 at \$9.25; to Goose 10 av 262 at \$4.65; to Brant 3 av 200 at \$5, 10 av 131 at \$8, 9 av 145 at \$8.75; to McGuire 10 av 157 at \$9.25; to Breitenback Bros. 21 av 170 at \$7.65; to Parker, W. & Co. 26 av 160 at \$8.50, 3 av 210 at \$5, 25 av 160 at \$8.75, 6 av 225 at \$6, 9 av 200 at \$5, 33 av 150 at \$8.75, 4 av 155 at \$9.75, 2 av 105 at \$7; to Sullivan P. Co. 5 av 160

at \$9.25; to Marx 3 av 250 at \$5, 7 av 160 at \$7.

Sheep and Lambs.

Receipts, 850. Lambs 75c@1 lower; sheep steady.

Best lambs, \$7.50; fair to good lambs, \$6.25@7; light to common lambs, \$5@5.75; fair to good sheep, \$4@4.50; culls and common, \$3@4.75.

Bishop, Bullen & H. sold to Newton Beef Co. 12 lambs av 70 at \$8; to N. Haise 10 do av 45 at \$6, 37 do av 75 at \$8; to Fitzpatrick Bros. 31 do av 67 at \$8, 7 sheep av 90 at \$3.50; to Sullivan Pkg. Co. 4 do av 155 at \$3, 16 do av 130 at \$4, 5 lambs av 60 at \$6, 42 do av 72 at \$8; to Michigan Beef Co. 60 do av 67 at \$8; to Thompson Bros. 18 sheep av 110 at \$4.25.

Spicer & R. sold Mich. B. Co. 9 sheep av 100 at \$4, 17 lambs av 75 at \$7.85, 14 sheep av 90 at \$4; to Eschrich 10 lambs av 65 at \$7.75; to Sullivan P. Co. 34 do av 70 at \$7.75, 10 sheep av 94 at \$4; to Stocker 7 do av 80 at \$5, 4 lambs av 55 at \$7.50; to Mich. B. Co. 18 sheep av 100 at \$3.50; to Gordon & B. 7 do av 90 at \$4, 29 lambs av 65 at \$7.50, 13 do av 80 at \$6; to Newton B. Co. 38 do av 80 at \$8; to Parker, W. & Co. 12 do av 65 at \$8, 7 do av 55 at \$7.

Haley & M. sold Thompson Bros. 44 lambs av 60 at \$7; to Mich. B. Co. 252 do av 68 at \$8.25, 10 sheep av 105 at \$4; to Breitenback Bros. 10 lambs av 55 at \$7, 87 do av 75 at \$8; to Gordon & B. 29 do av 80 at \$8; to Mich. B. Co. 17 do av 80 at \$6, 29 sheep av 100 at \$4.50.

Roe Com. Co. sold Eschrich 8 lambs av 80 at \$8.25, 17 do av 60 at \$5.

Hogs.

Receipts, 2,210. No market on hogs up to noon.

Friday's Market.

July 8, 1910.

Cattle.

Receipts this week, 923, against 638 last week; market steady at Thursday's advance on all grades; run light.

We quote: Best dry-fed steers and heifers, \$6.50; steers and heifers, 1,000 to 1,200 lbs., \$5.50@6; grass steers and heifers that are fat, 800 to 1,000 lbs., \$5@5.50; do., 500 to 700 lbs., \$4.25@4.75; choice fat cows, \$5@5.25; good fat cows, \$4@4.50; common cows, \$3@3.50; canners, \$2.50@3; choice heavy bulls, \$4@4.25; fair to good bologna bulls, \$3.75@4; stock bulls, \$3.50@3.75; choice feeding steers, 800 to 1,000 lbs., \$4.50@4.75; fair feeding steers, 800 to 1,000 lbs., \$4.25@4.50; choice stockers, 500 to 700 lbs., \$4.25; fair stockers, 500 to 700 lbs., \$3.50@3.75; stock heifers, \$3.25@3.75; milkers, large, young, medium age, \$40@50; common milkers, \$25@35.

Veal Calves.

Receipts this week, 907, compared with 1,006 last week; market active and strong, 25c higher than on Thursday. Best, \$9, 9.25; others, \$5@8.50. Milch cows and springers steady.

Sheep and Lambs.

Receipts this week, 1,384, against 1,080 last week; market steady at Thursday's prices. Best lambs, \$8.25; fair lambs, \$7.75@8; light to common lambs, \$6.50@7; fair to good sheep, \$4@4.75; culls and common, \$3@3.50.

Hogs.

Receipts this week, 2,985, against 3,574 last week; market steady for pigs, other grades 10c lower.

Range of prices: Light to good butchers, \$9.30; pigs, \$9.50; light yorkers, \$9.30; heavy, \$9.15@9.25; stags, one-third off.

LIVE STOCK NOTES.

The country has suffered greatly for want of rains, and pastures in many sections have become burned up, while hay will be a very short crop. This tends to make corn and oats more valuable to farmers, and in many quarters old corn is being marketed less freely, talk of a reduced hay crop amounting to ten million tons causing a feeling that corn is worth holding on to, particularly as it will be many weeks before the growing crop is safe.

The drought makes it important that farmers should give their cattle special care during the hot weather. Professor G. C. Humphrey of the College of Agriculture of the University of Wisconsin, says the importance of shade cannot be over-estimated. Stock may be housed during the day, if necessary, in darkened stables through which the air may pass, where the animals will be less annoyed by flies. Plenty of pure water is important, and so is green food, although hay may be used without serious results. By providing some soiling crops later in the year, the supply of roughage may be maintained without drawing upon the main forage crop.

Hogs of a marketable age are very scarce in most parts of the corn belt states, but there is a good "crop" of spring pigs, many of which are expected to come to market fully a month earlier than usual, for they have been growing rapidly and had a good start, favored by the early appearance of warm weather.

The drought in the northwest has been a source of great trouble to sheepmen, who have been hurrying to the mountains of southern Wyoming and northern Colorado with their flocks as soon as shearing was over, the range being the driest seen in years. Owing to such conditions, permission was granted as early as June 15 to flockmasters of Utah and Nevada to move their flocks to certain portions of the different forest reserves, the regular prescribed time for opening any portion of the reserves to sheep owners being July 1.

All kinds of swine are coming to market except light weights and pigs. Recent receipts at Chicago have embraced at least 15 per cent more rough packers than two or three weeks ago, suggesting that the best hogs have been marketed.

The long continued marketing of everything under the head of cattle from the farms of the country is bearing fruit, and a decreasing marketing of choice, long-fed cattle has put the price for such beefs in the Chicago market up to the

highest figures seen yet. By marketing cows, heifers and calves with unprecedented freedom farmers have been drawing heavily on the country's future beef supply, and owners of fat beefs are reaping big profits. Because of the increased supplies of cattle at leading American markets for several months in succession as compared with a year ago, many people thought the cattle shortage had been much exaggerated and that there would be enough after all, but they now see their mistake. A writer on this subject says: "The shambles have been the ultima thule of great numbers of potential mothers. Calf receipts at Chicago last month broke all records—not because there were more calves produced, no, not by a great deal, but because values are too attractive to permit owners to risk keeping them. There has been a ridiculously high butcher stock market, really out of all proportion to steer values. The incentive was the cry 'cheaper beef.' We got cheaper beef, but it soon became 'dearer' beef, and is so today. There is no such thing as cheap beef in this country, nor is there much prospect of there being anything of the sort for some time to come."

VETERINARY

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

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

Cow Holds up Milk.—My cow does not give down her milk as freely as she should; besides, she has a lump in the teat. G. B. S., Osseo, Mich.—When cows are not excited and when they are eating they give down milk best. Apply iodine ointment to teat directly over the bunch once a day.

Enlarged Glands.—I bought two small pigs last spring; soon after I brought them home I noticed a small bunch in one of their throats which seemed to cause him to cough and interfere with his swallowing food, but he remained healthy. This pig has not grown as rapidly as his mate, but strange to say, the other pig has swollen throat glands. J. Q. J., Richmond, Mich.—It is possible that both pigs have tuberculosis, affecting the glands of the throat, as hogs frequently suffer from that ailment and when they do the throat glands are usually diseased. Apply tincture iodine to enlarged glands once a day. Give each pig 15 drops creosote at a dose in feed twice daily.

Horses Pant when Working.—I have two horses that do not perspire nearly as freely as they should and I should like to know what to do for them. C. S., Lansing, Mich.—Wash your horses with warm water twice a day and give each one, one-ounce doses of tincture arnica in feed three times a day. After the desired effect is produced give smaller doses, but keep up the treatment for two weeks.

Diarrhoea.—We have six pigs that are now about three months old that are troubled with a diarrhoea. They were in fine condition at weaning time and were taken away from the mother about four weeks ago. These pigs are kept in a sheep shed where I wintered my sheep. I have several other pigs the same age that are running out on pasture that are all doing well. Do you believe that my young pigs have cholera? C. W. D., Kalamazoo, Mich.—The pigs should be kept out in a lot away from your sheep shed, because it is perhaps none too free from infection. Give each sick pig two drops of beechwood creosote or 1 gr. of salol at a dose three times a day. A small dose of castor oil given early in such cases is generally good practice.

Wire Cut.—We have a yearling colt that cut his fore leg on a barb wire some two months ago, the wound is above the knee. I have succeeded in partly healing the wound but I am afraid the knee is going to be enlarged. What can be done to reduce the swelling? A. L. B., Marion, Mich.—Apply equal parts powdered alum, oxide zinc and iodoform to wound twice a day. The swelling can be much more easily reduced next winter than now.

Bog Spavin—Thoroughpin.—I have a yearling colt that has large puffs in both hocks which causes no lameness; my neighbor tells me these bunnies are thoroughpin. This is a horse colt and has not yet been castrated; should he be cured before I have him altered? A. B., Wayne Co.—You had better have the colt castrated and leave his puffy hocks alone until next winter, for they will be treated more successfully then than now.

Collar Galls.—I have a horse that is troubled with sore shoulders and his skin seems to be quite tender, so much so that he chafes whenever worked hard. F. M. H., Milan, Mich.—To toughen and heal his shoulders dissolve ¼ lb. acetate lead, ¼ lb. sulphate zinc and 2 ozs. tannic acid in a gallon of cold water and apply to shoulders three or four times a day after bathing them with salt and water.

Partial Paralysis—Indigestion.—One of my cows has lost the use of her tail and when walking wobbles behind; she also stands with nose poked out and has not shed off yet. G. E., Bad Axe, Mich.—Give her a teaspoonful of ground nux vomica, two tablespoonfuls ground gentian and four tablespoonfuls Glauber's salts at a dose twice a day. Apply equal parts aqua ammonia, turpentine and sweet oil to back once a day.

Obstructed Teat.—I have a cow that has an obstructed teat; the bunch is in the upper part of teat next to udder; I use a

milking tube but it troubles me to draw milk through that. J. C. S., Lansing, Mich.—Apply equal parts tincture iodine and spirits camphor to bunch once a day. Perhaps you are not particular in boiling the milking tube or dipping it in carbolic lotion, a strength of one part acid to 30 of water. If proper cleanliness is not followed when using a milking tube the udder is generally infected and made worse.

Green Fetid Diarrhoea in Calves.—I would like to know how to cure the green fetid diarrhoea in calves; this ailment has killed many of my young calves. A. G., Santiago, Cuba.—When treating looseness of the bowels it is well to consider the cause and if brought on from either food or water supply being infected which is very often the case, a change should be made. Bowel troubles are controlled and relieved by giving opiates in either acute or chronic bowel ailments. It is good practice to give one or two ounces of castor oil to clear the bowels. The next treatment should be opiates to check the excessive purging; give not less than a teaspoonful of tincture opium at a dose every five or six hours until the excrement hardens. Follow up this with lime water and cooking soda, a teaspoonful of soda and two or three ounces of lime water. The lime water is made by dropping a handful of lime in a bucket of clean water; let it stand a few hours then pour off the first water, refill and it will be ready for use; the first water is usually a little sharp and bitter. Copperas, salol, beechwood creosote, also bichloride mercury can be given separately in small doses with good results. I try different ones of these remedies on different cases and one gives me about as good results as the other. You are living in a hot climate hence the great necessity to study how to raise calves by hand. The feeding utensils should be given much attention and kept clean; besides, the milk should also be kept cool.

Exostosis.—My four-year-old colt had a hard bump appear on shin just below hock which caused slight lameness. I applied a good blister to shin and later blistered hock; some time later applied hot salt to reduce the swelling in leg, but the lameness seems to have entirely disappeared. What had I better apply? A. K., Fennville, Mich.—It is generally a mistake to try to reduce a bump on their limbs during hot weather; therefore, I would advise you to leave your colt alone until fall, for fear of the treatment causing lameness.

Knuckling—Fractured Hip—Leaking Water from Navel.—I have a filly two weeks old that when she walks, both hind fetlock joints seem to tilt forward as though they were weak. She does not appear to be sick, but does not travel right. Will these joints ever strengthen? I also have another four-weeks-old colt that fell down when two or three days old, knocking the point of hip down and in. This injury causes some lameness. What had better be done for him? I notice in the veterinary column that a number of your readers are having trouble with their colts leaking at the navel. I had the same trouble with one and cured mine by injecting the navel with a weak solution of carbolic acid and water, then applied Monsell's solution of iron by saturating a piece of absorbent cotton and bandaged it on. I made a thick syrup of granulated sugar which assisted greatly in fastening the bandage to lower part of belly. J. W. C., Alanson, Mich.—See that your mare is well fed and not overworked, so that she will give plenty of rich milk and her colt will get all right. Nothing can be done for such a fracture as your colt met with, but with the exception of the point of hip being less prominent than the opposite one the colt will be all right. Monsell's solution of iron is one of the proper remedies for a leaking navel in young animals and your treatment of the case was proper. I thank you for writing the results of your treatment.

Brittle Hoofs.—I have a five-year-old mare that it is almost impossible to keep shoes on her front feet. Her hoofs are so brittle that they break out at nail holes and I would like to know if anything can be applied that will have a tendency to toughen her fore hoofs? Would oiling them with linseed oil do much good? J. W. K., Six Lakes, Mich.—First of all it is important that your mare should be kept in a perfectly healthy condition, for both man and beast, when suffering from digestive or blood troubles, have brittle nails and brittle hoofs; therefore, I suggest that you feed your mare nutritious, easily digested food, or plenty of grain and grass. Stand her in wet clay three hours a day, and apply lanolin (wool fat) to hoof twice a day. Blistering the fore coronets with cerate of cantharides every ten days will stimulate a healthy growth of horn. Applications of oil and ointments that exclude both air and moisture are harmful.

Chronic Cough.—I have a cow that has been troubled with a cough for several months; this coughing came on following an attack of lung fever which she had last winter and it has never left her. Some of my cows, also other cows in the neighborhood, are troubled with bloat, especially those that are pastured on clover; it has caused the death of several very nice cows. C. A., Cedar Springs, Mich.—Give her 1 oz. powdered opium and 1 oz. powdered licorice at a dose in feed night and morning. Whenever cows overeat on wet clover they are apt to be troubled more or less with bloat. Knowing that wet clover is the cause, you should limit their supply and unless this is done, drugs will not help you out much. To relieve bloat it is very often necessary to puncture into paunch and allow the gas to escape through a canula or tube. You should have a trocar and canula on hand; they go together but when necessary you may use a knife to do the cutting and a large goose quill to prevent the wound in skin and muscles and paunch from closing until the bloat goes down. Also give 2 oz. doses aromatic spirits of ammonia in a pint of cold water as a drench every 30 minutes.

Look Him Right In The Eye



Two sorts of agents claim that disk-filled or other complicated, hard-to-wash, out-of-date cream separators are modern and easy to clean. One sort knows better, but hopes you don't, because he wants to sell you that kind of machine. Look that fellow right in the eye—tell him you do know better and that he can't fool you. The other sort of agent is simply mistaken—he does not know the facts. Tell him to look at a

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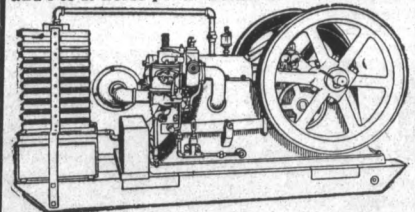


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WANTED: Married man to take charge of a dairy on the Cornwell Farm, Clare County. Give references and address W. C. Cornwell, Saginaw, Mich.

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

CARING FOR COWS AT CALVING TIME.

A trouble more or less found in all dairy herds is the retention of the afterbirth, or the failure of cows to clean off properly after calving. I wish to give here my own experience with this trouble, which will deal chiefly with the removal of the afterbirth.

It may not be amiss, however, to give at the outstart a few preventive measures and these are very simple. The main thing to do is to provide cows with laxative feeds, such as linseed meal, and warm water shortly before and after calving. If the bowels are not perfectly loose at calving time the cow should be given one to two pints of raw linseed oil or about one pound of either Epsom or Glauber salts.

Many farmers pay no attention whatever to cows that do not clean off. They allow the afterbirth to decompose in the cow and gradually slough off. This causes a foul discharge from the vagina and usually impairs the health of the animal; death may actually result. There is also

ally not matured sufficiently inside to detach it from the womb.

I have very successfully practiced both of the foregoing methods. That is, tying a weight to the afterbirth or cutting same off close to the vagina with a sterile knife, and can recommend them with confidence to dairymen.

Wisconsin.

JOHN MICHELS.

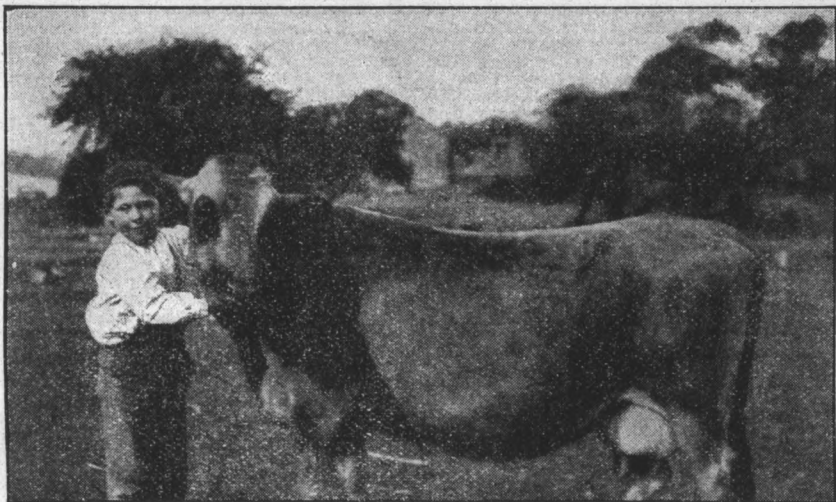
THINNER CREAM IN SUMMER.

I would be greatly pleased if you would tell me whether or not the early grass has a tendency to make the milk thinner. I cannot get as thick a cream now as I did last winter with the same amount of milk. I use a separator. Don't the winter feed make more body to milk?

Cheboygan Co.

A. E. B.

I am of the opinion that the temperature of the milk when it is run through the separator has more to do with the thinness or thickness, or the consistency of the cream than the feed which is fed the cows. In fact, I do not believe that feed could have very much to do with the per cent of butter-fat in the cream. When the milk is warm, you have a thinner cream than when the milk is cold, consequently this would be one reason why you would be getting thinner cream now than you get in the winter time. In the winter time, even if the cows are kept in a warm stable, the milk is much cooler than it is in hot weather. It is



Nurturing the First Great Factor in Successful Dairying—Fondness for the Good Cow Herself.

a considerable falling off in the milk yield as may be expected from any animal not in good health. Obviously, paying no attention to the afterbirth is too expensive a matter to be tolerated.

In other cases the farmer is overzealous in the matter and calls in a veterinarian, who usually proceeds at once to remove the afterbirth by disinfecting the hand and arm and exterior of the vagina and inserting the hand into the womb to loosen the afterbirth which is fastened to the womb by button-like projections. This is the method in vogue by the medical profession and when followed out with the greatest care is successful. I have known many cows to die from such an operation, however, even when performed by veterinarians, and have discarded the method as unsatisfactory. It is expensive from the standpoint of veterinary fees and often requires prolonged disinfection of the womb after the operation, which is time-consuming and therefore expensive also. The chances of infection and blood poisoning are too great with this method.

A method that has proven very satisfactory in removing the afterbirth is to tie a weight of about one pound to the protruding portion and confine the cow to her stall. The gradual pull of the weight causes no injury, provided the cow is confined so that the weight can not get entangled. A veterinarian may call this rather crude, but I am convinced from my own experience and observation that this method is safer, simpler, cheaper and more successful than the one commonly used by veterinarians. In fact, there are veterinarians of the highest repute who do not believe in putting the hand into the womb to remove the afterbirth. A simple, and as I found it, successful method employed by one of these veterinarians consists in cutting the afterbirth off as close to the vagina as possible with a sterile knife. By keeping the afterbirth cut off closely in this way there is no chance for infection and hence it is cast off without putrefying, even should four or five days elapse before it is finally expelled. The method has this in its favor: it allows nature to loosen the afterbirth in a normal way, which is as it should be. When the afterbirth is retained after calving matters have usu-

usually taken to an outside building to be run through the separator where the temperature in very cold weather is quite low, which cools the milk rapidly, while in the summer time when the thermometer stands as it has the past few weeks, the milk is kept warm; consequently you get thinner cream than you do in the winter time. The amount of butter-fat in the cream is also affected by the speed of the separator.

COWS CHEWING BONES.

My cows are in the habit of chewing bones, wood, old rags, etc. They even chew on the side of the barn sometimes. They have plenty of salt, so that is not the trouble. My cows are doing well and are looking good.

Charlevoix Co.

H. E. C.

I am quite positive that the reason your cows chew bones, boards, etc., is because there is a lack of phosphorus in their diet, and this can be remedied satisfactorily by mixing bone meal with their salt, half and half, and feeding it. After they eat some of this bone meal and salt, I think you will find they have no desire to chew bones, boards, etc. A short time ago I visited the Experiment Station of Minnesota, at St. Paul. Prof. Hecker pointed out that in his experiment stable where he was experimenting along the line of digestion with a bunch of steers, that the front of the mangers had been chewed by the steers. When he noticed it he asked the attendant if bone meal had been mixed with the salt. The attendant said that this had been neglected and on supplying the bone meal with the salt, this desire to chew the manger was entirely done away with. In place of bone meal, ground phosphate rock could be used and would be practically as satisfactory. Probably, however, you can secure the bone meal easier than you could ground phosphate rock, or floats.

The man who milks his cows and keeps no record of the results is working in the dark.

For the average dairyman it is cheaper to raise his own cows than to buy them. Besides, if he has good cows to begin with he can more wisely select the calves because of an intimate knowledge of the work of the mothers.



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FARMERS' CLUBS

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

Associational Sentiment.—

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

THE SIMPLE LIFE.

Paper read at the June meeting of the Indianfields Farmers Club, by Ellen C. Purdy.

Of late years we have been reading a great deal about the 'simple life; the getting back to first principles; to primitive man; to nature and her vast stores of beauty. But the pendulum swings slowly, and but a little way in that direction. What is the simple life? It seems to be the elimination of all unnecessary frills and fables both in dress and surroundings, business and pleasure, mind and heart.

From the crowded highways of life, with their hurry and bustle, rush and roar, to the unfrequented by-ways winding along by green pastures and hedges, waving trees and silver streamlets. Too many of us think that the more dust we kick the more we are enjoying ourselves and fulfilling life's mission.

Emulation is the greatest enemy of the simple life. To excel our neighbors in domicile, furnishings, fashion, equipage and fortune seems the aim of the masses. If our neighbor gets a cut-glass salad dish, we speedily aspire to a punchbowl; if he sports in an auto of the latest make, we begin to inquire the price of aeroplanes. "Keep up with the procession," and get a little ahead of it if possible. In no one thing is this antagonism to a simple life shown more than in this blind following of fashion.

Good, expensive and really artistic garments are hung aside for the moths, or lugged off to the rummage sale, because forsooth Dame Fashion pronounces them as "out." The idea that we are ruled in action, and beggared in purse by a set of dressmakers employed by the dry goods men, to stimulate trade.

There are some foreign nations whose prevailing style of dress has not changed in a century. With us most things are out before they are fairly in or we have become accustomed to their ugliness and oftentimes ludicrous appearance. It is an old proverb that "fools build houses, and wise men live in them." I sometimes think when gazing at some of the latest "swell" styles, that lunatics make the fashions and idiots wear them.

The really necessary things of life are few; a roof to shelter, a fire to warm; a bed to sleep in; plain nutritious food and comfortable clothes with no fripperies or flourishes; the rest, is froth, foam, vanity and vexation of spirit. It is the reaction from a race that is unsatisfying, that is taking many back to simple ways and living. The millionaire has his great country estate in the Adirondacks or Massachusetts Hills, with sometimes a mansion, but often an unpretentious log house. Here he gets near to nature, the Great Mother of us all, and whose wonderful kaleidoscope effects outrival all our pigmy efforts at imitation.

John Kendrick Bangs says: "The soft sweet notes of woodland birds, The crowing of the lowing herds, The rustling zephyrs as they pass Across the tree tops and lush grass, The humming of the bees, the throng Of insects with their evensong, The chirp of cricket, and the note Of treefrogs on the air afloat. The monotonous of waters free, The murmurs of the forest tree, The rich crescendos of the gale, Staccato of the rain and hail— These are the songs our fathers stirred; These are the songs that Adam heard; These are the anthems that will be Unchanged through all eternity; The Symphony Divine that rolls From Heaven forth to human souls. To cheer the heart and ease earth's strife With promise of immortal life."

In our grandfather's days people were content to work a lifetime and thought themselves lucky to acquire a competence or small fortune in middle life. The generation of today looks for wealth in the early thirties and expects to begin where its parents left off.

Some of you may remember the anecdote told at a prohibition meeting at the Caro opera house, of the three men condemned to be hung; the judge gave them their choice of a tree for the execution. The Englishman chose an oak, the Scotchman chose an elm, but the Irishman declared his preference for a gooseberry

bush. "But man," said the judge, "a gooseberry bush is not big enough to hang you on."

"Ah," replied the Irishman, "then I'll wait till it grows."

We are not willing to wait for growth; we want things now, full grown, full-fledged, and we crucify health, conscience and friends to obtain that which is but naught and soon passes away.

This nervous rush for place or power for gold or fame is what makes our people gray and aged at the very time when they should be in the very prime of life. And what will these perishable possessions amount to in the end? A chiseled stone and a half-dozen lines in the obituary column after all tolling is over and "life's fitful fever" ended, make us ask, is it worth while?

Rather let us take time to be glad, to rest and reflect. We pass this way but once, let us enjoy the road even if we are not whirled along at auto speed. Remember that "life is short and we shall be a long time dead."

Fill life, then, with essentials and comfort. The beyond is with the Omnipotent. There's a song I have heard of two children who came

On the very same day to a town, But one in a house on a terrace was born, And one in a street further down; One came to a life of plenty and ease, And one to want and to woe, While one was arrayed in garments fine, The other rags was to know.

Each lived their life of sorrow or joy, Filled their niche as each of us may, And as they were born so both of them died.

In that town on the selfsame day, But the angels who joyfully welcomed them in To the City of Gold did not know Which one came from the terrace house And which from the street below.

Here's a thought for us all, which we well may heed, Whether we feast or fast, 'Tis what we do not what we wear That will count in the end at last; If we only pass through the "gates of pearl,"

It will not matter not to know, If on earth we dwell on a terrace grand, Or lived in the street below.

CLUB PICNICS.

The fourth annual picnic of the Thornapple Farmers' Club was held in Aaron Adams' grove in West Thornapple on July 4. The day was an ideal one for a picnic and about 300 people gathered to enjoy the day, as an excellent program had been prepared. The Caledonia uniformed band furnished excellent music throughout the day. John C. Ketcham, postmaster of Hastings, and former county school commissioner, gave an address in the forenoon on "The Farmer of Tomorrow." This talk contained many splendid thoughts and was much enjoyed by all and should spur his hearers on to better agricultural efforts during the coming years. Mrs. Robert N. Burch, of Hastings, sang a solo, after which a social hour and basket picnic dinner was enjoyed by all. The afternoon program was commenced at 1 o'clock with music by the band, after which Rev. C. Malley gave the invocation and Miss Annis Bush sang "My Own United States" very prettily. Ely McNaughton recited "Spartacus" Address Before the Gladiators, and several numbers were rendered. The speaker of the afternoon, Hon. Clement Smith, circuit judge of Barry and Eaton counties, was introduced by W. R. Harper, president of the Club, and spoke at length on "The Farmers' Best Asset." This address was forceful and scholarly and paid tribute to the farmer and the working man as the nation's real source of strength. The judge ranked the honest toiler above the idle rich in good citizenship and this talk was followed by hearty applause, which showed how well it was appreciated. The sports of the day included a good ball game which was played by the boys and young men. About six o'clock the crowd dispersed, all agreeing that they had spent a pleasant day, and the fourth annual Fourth of July picnic of the Thornapple Farmers' Club had passed into history to be ranked with other pleasant memories of the past.

CLUB DISCUSSIONS.

Marketing Milk.—The June meeting of the Conway and Handy Union Farmers' Club, of Livingston county, was held on the 23rd, at the home of Edward Lasher. After the opening exercises the first topic discussed was the most profitable market for milk, the cheese factory or the condensary. Mr. O. E. Carr, who opened the topic, claimed the cheese factory the most profitable place to market the milk, since while the price was lower at some seasons and the average was favorable to the producer, while the value of the by-product secured from the cheese factory was an important consideration. John Snyder, the next speaker, favored the condensary, since he believes the price to average higher and the price is made six months in advance so that the seller knows just what he is going to get. James Rambo favored the cheese factory for the marketing of milk, while the creameries came in for commendation in the discussion, the prevailing opinion being that the producers received better treatment on account of the competition between these different users of milk. The question box contained several interesting topics for discussion. After the completion of a good program the Club adjourned to meet with Mr. and Mrs. Fred Rathburn on July 29.

GRANGE

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

THE JULY PROGRAMS.

Suggestions for Second Meeting.

"It is one thing to indulge in playful rest, and another to be devoted to the pursuit of pleasure."—Ruskin. Roll call, responded to by each naming the grandest sight he ever saw. Humorous recitation. Select reading, "In the fields with God." "Summer plans for recreation," general discussion led by the Lecturer. Select reading, "The Hope Farm man on playing ball." "Picnic Lunches," a short paper or talk. Surprise feature, music throughout the program furnished by "The Zobo Band."

REASON FOR FAITH WITHIN US.—II.

As I was saying in a recent issue of The Farmer, a woman lately took the Grange to task for not making its real work and purposes better known beyond its borders. I have no defense to make. In fact, I should far rather that such a charge be made than that the organization be charged with bombast and over-lauding of itself. But is there not a happy middle way? I think there is and that it consists in a thorough understanding of Grange principles and accomplishments that adds strength to the character of the Order and the individual. Such a conviction and understanding cannot be hidden, cannot be kept silent, though they manifest nothing of the spectacular.

To illustrate how a principle may dominate a person's thought and life when once it takes deep root, let me cite another woman friend, one who is subordinating all self aims and possessions for the promotion of a cause in which she believes with her undivided heart. The thing that has impressed me most in her devotion and singleness of purpose is the thorough mastery which she possesses of every aspect of her subject. She has studied it from every practical vantage point. One cannot approach her with any query or talk with her upon any topic but that her mind traces its relation to this, to her, most vital matter. She has in actuality "learned to put down self and work for a cause," through her grasp on its largeness. Her Cause absorbs her, she acknowledges it to be so much greater than herself, so much more worth sacrificing for, so real and so big that she loses her own littleness in its greatness—and her life is full of power and sweetness thereby.

Just so, in its realm, may the Grange possess and impress its stamp upon individuals and they in turn stand like living fingerposts pointing their fellow countrymen and women to its aims and work. Just so, in fact, does the Grange now possess many of its members. They are not noisy exponents of it but they are stanch in their belief in it and can give a reason for the faith that is within them. Such understanding of the Grange makes one conscious at all times and under all circumstances of its fitness to meet the needs of rural people. Such a person knows that "what has been, can be." No amount of pessimism on the part of dubious doubters can shake his confidence in its ability to lead a community into a happier, more helpful manner of living. He cannot help radiating information regarding his cause. Discouragements at hand do not daunt his confidence in its possible ultimate outcome. He sees things in a large way and no carping and narrowness, brought about by local short-ranged views, dims his sight of its final results. May his number increase!

It is an end to be desired and worth the effort to attain—this understanding of what the Grange principles are and the part their development has played in the making of present-day country life conditions. To attain it is to master no inconsiderable portion of the history of recent rural progress and efficiency.

JENNIE BUELL.

AMONG THE LIVE GRANGES.

Harmony Grange, of Wayne Co., had an attendance of 175 at its last meeting in June. On this occasion the third and fourth degrees were conferred upon a good sized class and the hall had been tastefully decorated with flags, flowers and foliage plants. A two-course luncheon was served and a short literary and musical program enjoyed.

Blackman Grange.—Deputy John F. Wilde organized a Grange of 44 members at the Blackman town hall Monday evening, June 13. The following are the temporary officers: Master, Mrs. M. B. Raymond; overseer, P. F. O'Leary; lec-

turer, Mrs. Jene Chanter; steward, S. L. Houseman; ass't steward, Lee Beebe; lady ass't steward, Flossie Fairchild; chaplain, Mary A. Murry; treasurer, Fred Beebe; secretary, Jesse Chanter; gate keeper, Asa Wheeler; Ceres, Mrs. Ilo Beebe; Pomona, Barbara Perkins; Flora, Amanda Reul.

Leelanau's New Granges.—In Leelanau Co., which was one of the last counties of the lower peninsula to enter the Grange fold, has added two subordinates to its list in the past two months. Late in May, Deputy Fred C. Warner installed the officers and gave the usual instruction to the new Grange which had been organized at Empire. A few weeks later he performed the same service for the new Grange at Kason town hall. The principal officers of Empire Grange are the following: Master, C. J. Smith; overseer, Albert Taylor; lecturer, Mrs. Minnie Taylor; steward, D. C. King; assistant steward, Erastus Birdsey; chaplain, Mrs. C. J. Smith; treasurer, Herman Rohr; secretary, Mrs. D. C. King.

Ingham Co. Pomona held an enthusiastic meeting with one of her latest acquisitions on June 25. Although Vantown Grange is only one year old, it is one of the most active and prosperous Granges in the county. There are no pessimists among its members and the officers are real live optimists who waited not for state organizers or county deputies to aid them in building up the order in that section of the county, but went to work, immediately after receiving their charter, to establish a flourishing order and have succeeded admirably. They are constantly on the lookout for new and desirable members and after a class is admitted to membership an effort is made to interest each individual member in Grange work. This is done largely through the lecturer's work, as good programs are presented at every meeting and the ritualistic work is carefully observed. Great interest was taken in the topics under discussion at this meeting and they covered a large field, as "How the Grange plans to help the farmer," "The benefits of local option," "Eradicating weeds on farms and highways," "Value of silo on the farm," "Suggestions for lightening labor on the farm and in the kitchen, during the hot weather," "The benefits and the evils of trusts." The discussions and talks were interspersed with readings, Grange songs and instrumental music. With good cheer dispensed at noon and at close of meeting, all who were there felt that that "rare day" in June had been pleasantly and profitably spent.—Mrs. E. J. Creyts, Lect.

MICHIGAN ADDS THIRTY GRANGES IN THREE MONTHS.

The number of Granges organized and reorganized in the various states from April 1, 1910, to June 30, 1910, both inclusive, is reported by National Secretary Freeman as follows:

Organized.	
Colorado	1
California	2
Connecticut	1
Idaho	3
Kansas	3
Maine	2
Maryland	1
Massachusetts	1
Michigan	30
Total	92
Re-Organized.	
Kentucky	1
Massachusetts	1
Michigan	1
Ohio	1
Total	8

THE GRANGE IN OTHER STATES.

The Pomona Grange, of Center Co., Pa., probably holds the record for a long series of annual events partaking of the nature of a county fair and encampment. It started as a one-day Grange picnic in 1874 and was converted into a three days' encampment in 1887; in 1890 the county Grange bought 28 acres of land and converted it into a park, known as Grange park, paying \$115 an acre, the title and ownership being absolutely in the county Grange, it being an incorporated body. Since the purchase of the ground there has been added to the encampment a Grange fair which has been enlarged from year to year. The whole ground is thoroughly equipped with suitable exhibition buildings. The county Grange also owns a large number of tents and full camp equipment which are rented to families at \$3 per tent. Several hundred farmers and their families camp every year, the attendance aggregating from ten to fifteen thousand. The thirty-sixth of these annual encampments was held last September. The general exhibition building erected three years ago has proved a great attraction and has been crowded with exhibits. The museum of relics is a very interesting feature and attracts many people.

The Grange in Massachusetts is leading the fight of the milk producers of that state, holding meetings all over the state, sending out letters and circulars, interesting the producers out of the Order as well as those inside and sending special communications to sections where there is the least indication of wavering. The contention is for prices that will give the actual producer a fairer proportion of the profits accruing from the sale of this necessary commodity.

COMING EVENTS.

Grange Rallies and Picnics.
Oceana Co., at Pentwater, Saturday, July 23.
Lenawee Co. Pomona, with Fruit Ridge Grange, Thursday, Aug. 4.
Pokagon Grange, Cass Co., at Wiest's Landing, Indian Lake, Thursday, Aug. 4.
Northern Lenawee Co. Grange and Farmers' Clubs, at Sand Lake, Putnam's Landing, Saturday, Aug. 13.
Kent Co. Pomona, at Silver Lake, Cannon township, Kent Co., Wednesday, Aug. 17.
Pomona Meetings.
Charlevoix Co., with Norwood Grange, Thursday, Aug. 18.

HORTICULTURE

MONEY IN THE EARLY PEA CROP.

With anything like fair conditions there is good money in early peas. The crop can be turned quickly and the ground thus occupied is in excellent shape for late cabbage, celery or turnips. Another advantage is that they leave the soil in ideal shape for a second crop. Ninety days is a short time in which to plant and market a crop and clear the ground for a second crop. Yet with the right varieties of peas this can be done with certainty and ease.

We were not dependent this year upon the city for a market but found quick sale in our home village for all we had and could not begin to supply the home demand. We catered entirely to private trade and did not supply the stores at all. This, of course, takes time and makes more work. We set our own prices and pay no attention to what the grocers sell at, provided they have any to sell. There is much in picking them at just the right stage and delivering them fresh from the vines. Our customers in general soon discover the difference between the fresh article and those that are picked haphazard and lie around in the stores from one, to three or four days. Customers, it is true, sometimes demur and tell us they can buy at the stores for less money. Very well, so they can, sometimes; and often they go and try it for once; but usually with the result that they are after us next day and are entirely satisfied to let well enough alone and buy an article they can eat and not have to throw it away. We find that one satisfied customer brings us others, and usually all the orders we could handle were in a day in advance of delivery so that we knew where we were at all the time; but just deliver one order of worthless trash and there is no necessity for making a second trip. It goes without saying that it requires time and pains to pick and market in this way, and it takes many times going over the vines, and judgment and care in picking just at the right stage of maturity but the results justify the extra labor.

At the yield and prices of this year, which are in no way out of the ordinary, our crop showed a rating of \$200 per acre. This, we should say, is entirely conservative and not a bad showing for a crop so easily and quickly grown, and one that so readily gives place to a second crop.

Wayne Co.

J. E. MORSE.

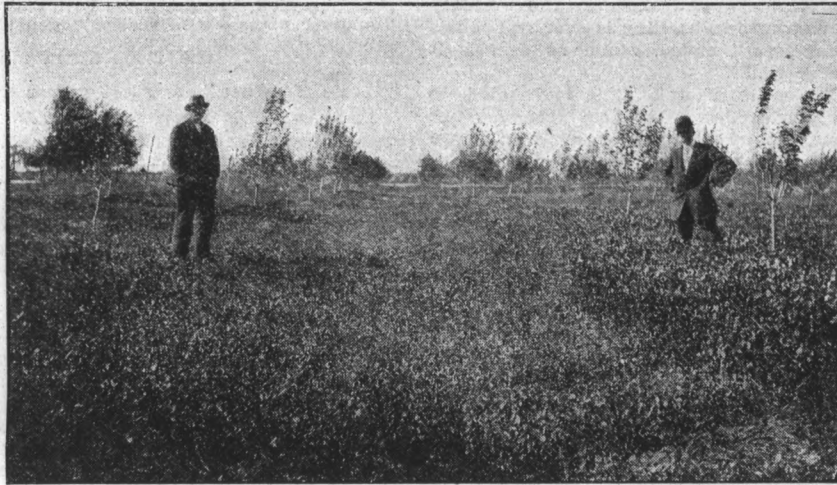
AN EXPERIMENT WITH FERTILIZERS.

The photos reproduced on this page are of an experiment showing the effects of fertilizers on clover. This is one of a series of tests that are being made to work out the effects of fertilizers under different combinations on fruit trees. The one in the pictures was not made for the purpose of testing the effects on clover, but rather the results on the pear trees. But the effects are so marked that the pictures have been taken.

The ground on which the experiment shown in the pictures is being made was formerly an old peach orchard. The method of handling this ground was published in the Michigan Farmer about two years ago. While the peach trees were growing the ground was handled after the usual custom of those days—continuous cultivation with little in the way of fertilizing. The result was that when the trees were removed the soil was so devoid of humus that no paying crop could be grown on it. The aim has since been to grow the pear trees and at the same time improve the soil. When the peach trees were taken out the pear trees were set and mulched with stable manure in a fresh condition, and the ground sown to oats and Canada field peas. The grain only grew about six or eight inches high and when ripe was plowed down and allowed to grow up a second crop. Since then the ground has been seeded to clover, with oats as a nurse crop, and the next year the clover plowed down. The medium red clover has been used. The third crop of clover is now growing, and of course, is only raised as a humus crop. The soil is a rather heavy clay loam with clay sub-soil.

This experiment covers three plats of about one-eighth of an acre each, or three rows of pear trees with 14 trees in a row. The trees are planted 20x20 feet, and the fertilizer was broadcasted and extended not quite to the center of the

three rows on either side. Plat No. 1 was left untreated as a check. On the other two the fertilizer was applied on a basis of 1,000 lbs. per acre of a 2:7:10 mixture. On plat 2, 107 lbs. of a mixture composed of 20 lbs. of dried blood, 62 lbs. of acid phosphate and 25 lbs. of sulphate of potash was applied. Plat 3 received the same quantity of blood and acid phosphate as No. 2, but the potash was omitted. The applications were made about the middle of May, 1909, the oats and clover seed being put in at the same time, and the ground worked with a disc harrow. It had previously been plowed and



To the Left is Plot No. 1, or Check Plot, while at the Right is Plot No. 2, where Potash was Used with Dried Bone and Phosphate.

the oats and grass seed put in, but as it was advisable to work the fertilizer into the soil, that under treatment was again sowed with oats and clover. There is a very perceptible difference between the clover now standing on the plat treated with the complete fertilizer and that with the potash left out, but this does not show so clearly in the photos. But the difference between the fertilized and unfertilized plats is very marked, as will be noted by the growth about the feet of the men standing in the clover.

Allegan Co.

EDWARD HUTCHINS.

FRUIT NOTES.

Although 1910 will not go down as a banner fruit year, yet the prospects are not altogether dark. As the apples grow the few show up more and some trees that showed few earlier now appear to have a respectable half crop. To offset this, however, there is a heavy drop compared with the amount of fruit on the trees, probably due to a weakening by the frost and unfavorable weather earlier and to the present drouth which is becoming quite serious. Where early varieties are loaded it is time to begin thinning, and this operation should not be neglected for good fruit will be likely to be a good price, and we can not produce the best fruit when the trees are overloaded.

We have our peach trees nearly thinned and find that the crop will be heavier than expected, though by no means a full

a good crop without rain. We are considering the proposition of getting hose enough to connect to the village water-works hydrant about 20 rods away and try irrigating on a small scale. Water would cost about one-third of a cent per barrel. In fact, we have been considering for some time the feasibility of putting our small fruits in a field bordering on a street where a water main runs and piping so as to irrigate during dry spells at fruiting time as at present, and should like to know what Michigan Farmer readers think of the plan.

The strawberry season is nearly over

and we find that we have picked about a half crop. It was cut off at the beginning by frost and is being cut off at the end by drouth, and the crop shortened throughout by the dry weather. We have had but one shower since we began picking and had none for a week or more before, so the moisture in the soil is pretty well exhausted. It is interesting to note the behavior of different varieties under drouth conditions. In general, those varieties that have a dense green foliage stand the drouth best, and those whose foliage is scant or curls upward, do not stand it as well. Of the last named class the Warfield is notable. The leaves roll upward and the berries being so exposed to the sun dry badly, together with the stalks. This berry has been a very popular one, but it has not proved a satisfactory commercial berry with us as it produces too many and too small berries, and does not stand drouth well. It is also too prolific of plants. We have not set any except for plants for two years, and this season will close out our Warfields. Dunlap will more than take its place.

The Clyde is another berry that does not stand either drouth or excessive wet, as the foliage is scant and the fruit lies on the ground. On some seasons it has done exceedingly well, the best of any variety we had, but in general these faults render it rather undependable, and we are not setting Clyde any more.

Our best late berry is still Aroma. It has held the banner for the past three



Plot No. 2 at the Left with Plot No. 3 at the Right, where Dried Bone and Phosphate were Used without Potash.

one. We are trying to profit by last season's experience and get them thinned more and so are now going over the trees a second time. Where the trees are well loaded we thin to about six inches; where the fruit is scattering and only a few branches are full we try to thin these to about four inches.

The raspberries are beginning to ripen, but unless we get rain soon they will be a light crop. We have kept a dust mulch in the patch all along so the canes have kept quite green but when fruiting time comes they will not hold out and produce

seasons. I can not say that it has out-yielded all others, but for producing a moderate quantity of very firm, pretty, medium to large, even-sized berries and no small ones until the very last, it has not been equaled by any other. Brandywine does very well, but does not hold its size as long as Aroma. Gandy did better this year than last, and is quite similar to Aroma in many respects, but does not seem to quite equal it with us. Sample also did well.

Hummer has proved to be a berry which produces abundantly of sweet, large ber-



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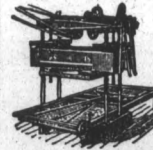
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ries, but they are too soft for shipping. Dornan is a little smaller but too soft for a commercial berry except to a home trade.

Some other varieties which we have had on trial one and two years are Marshall, Cardinal, Parker Earle, New York, Texas, Climax, Wm. Belt, Klondike, Stevens. The season is so abnormal that an intelligent report can hardly be made. None of them did well this season, and I can neither endorse nor condemn on one or even two seasons' trial. We have not been able to get a paying crop from Marshall for the past two years, as it seems to be such a scant bearer, and the foliage is subject to fungous diseases. The quality of the berry is the best. Parker Earle yields many berries but of medium to small size. Cardinal has not made a good showing as yet, but we grew some vegetables between the plants while they were young and injured them, so they did not have a good show. We have learned that strawberry plants do not care to divide the ground with anything else. New York did neither very good nor very bad. Texas came in a little ahead of Dunlap and Warfield and produced quite a number of medium sized round berries. We will try it another season. Climax proved to be later than expected and showed no particular merits. Wm. Belt and Klondike gave a fair yield, but produced no conclusive argument for their general setting.

Our aim is to try out the leading varieties for three years or more and then either adopt or discard them.

Calhoun Co.

S. B. HARTMAN.

FIGHTING CUCUMBER BEETLES.

Our acre of cucumber plants are looking very well. A week ago the beetles began to get thick and we tried the remedy advised by the factory manager, turpentine and ashes. A quart of turpentine to a bushel of ashes were used, the ashes being sifted, the turpentine mixed thoroughly with it and dusted on the vines with a pail having a perforated bottom, the work being done in the morning while the dew was on. It took about three-fourths of a bushel of ashes and 25 cents worth of turpentine and three hours labor to go over an acre of the vines. Although there are some of the beetles present now there are few hills that have been injured.

At the time of applying the turpentine and ashes arsenate of lead was put on a small plot. These have not been molested more than where the turpentine and ashes were used. A few hills were left as a check, nothing being applied to them. These are injured more but only one of them is destroyed as yet.

We have just finished going over the patch again, using arsenate of lead on most of the vines and turpentine and ashes on the balance, leaving the original check plot with nothing applied, and will report results later.

The cucumbers were planted three feet by seven and a row of beans set between each two rows of cucumbers. These are also doing well, and it would seem that they will not interfere with the cucumbers, but we have not grown the two together before and may be mistaken. If they are not out of the way in time we can pull them for feed.

S. B. H.

APPLE CROP IS SHORT.

A survey of the Michigan apple crop for 1910 is not encouraging to the consumer, and the grower will have to give the remaining specimens on the trees unusual care to get from them the price of the cultivation, spraying, pruning and other expenses he may have been to produce the crop. It is certain, however, that the loss will be greater where these cares have been neglected. For in instances where the orchards have been overlooked in the business of the year, or have been neglected outright, the amount of fruit is less in quantity and inferior in quality than bordering orchards that fared better at the hands of its owner or renter. The crop reporters of the state tell us that the yield for the year according to the appearance of the trees at the first of the month, will not be over 45 per cent of an average crop. Consumers for the past few years have been educated to pay a high price for their apples and it would seem, if the crop outside the state is anything like it is here, and reports would indicate that none of the popular apple growing sections would have a bumper crop, they will be called upon to do so another year, for which the growers will in part be repaid for the failure of the trees to carry a heavy load.

POULTRY AND BEES

PREPARING FOR THE MOULTING SEASON.

It is well to consider what is the best treatment of fowls while they are passing through the moult. Though it is a natural and an annual process, and not, therefore, necessarily a dangerous one, yet, as a matter of fact, it is a trying ordeal with many fowls and occasionally proves fatal. Besides this, while the birds may pass through it with very little trouble, yet the length of time it takes, and the state it leaves them in, has much to do with the way they start to lay again, and if, therefore, we can help nature in any way it is advisable to do so.

Fowls always seem to moult earlier and quicker when they are warm and in places where they are exposed to the sun. If the weather is very hot, the moult starts sooner, and when the weather continues warm while they are moulting they seem to lose the feathers much quicker and regain them quicker. Birds that are very fat moult badly, so that it is always advisable to reduce the feed as the moulting time approaches, though at the same time the strength should be maintained by sufficient food of nourishing character.

When moulting actually commences, it is best to feed liberally on rations which are easy of digestion and rich in protein. The vitality must be maintained during this critical period and the system helped to furnish the material for the growth of new feathers. Fowls at liberty are best able to get through this process, for in the food nature provides there is the very best material for sustaining the strength and growing the new coat. Green food is absolutely necessary, and there is nothing better than clover, in which the fields are rich at this time of the year, especially in the after-growth of meadows. There is also an abundance of insect life and various substances in the soil which provide both animal and mineral food.

While we may desire to do the best thing, it is not always easy to do it, and as moulting fowls require different treatment from those not moulting, the best plan is to separate them as they commence. But how few of us can manage this. It necessitates having a separate house, or houses, and pens in which to place the moulting fowls, and it requires that the flocks be examined each day for the fowls that have commenced to shed their feathers. Of course, it is easy with those who keep a small number to single out those needed, but it is a difficult job to look over hundreds of fowls for those that are moulting. It is often not easy to detect them, as many fowls moult very gradually and at first it is almost imperceptible. However, it is certainly the correct thing to do, and any who can manage it should do this.

Cocks should not be allowed to run with the hens during moulting, so that as the number of hens not moulting decreases they should be confined with the cocks. Or if the cocks would not fight they might be placed in a pen by themselves. Indeed, in any case, it is better to have all cocks separate from the hens from now until they are required for breeding in the spring. As there is considerable variation in the time of beginning to moult between different individuals, and between flocks of different ages, and also a wide variation in the length of time it requires individuals to complete the moult, it is often a difficult matter to keep all separate and treat them accordingly, but as far as possible this should be done.

Canada.

W. R. GILBERT.

KEEPING FOWLS ON A SMALL RANGE.

Most people think that in order to have fowls profitable they must have a wide range. Indeed, I can remember when I thought the same thing, and oftentimes the residents of little towns scattered through the country do not have fowls that might help so much toward the table supply of good things because they think there is not room enough on a lot to raise chickens.

I am of the opinion that all fowls would be more profitable if they were confined in yards, for the simple reason that when allowed to run they are expected to do too much for themselves. In other words, they are expected to hunt too much of their food supply. Then, too, many chickens that are lost to hawks, rains, etc.,

might be saved if they were in confinement.

This was not what I started out to tell, however, but how much may be done with chickens in small space. Out here, where land often sells for \$1,000 an acre and more, and where half an acre is a "ranch," they do things in small space that are almost enough to take away one's breath.

When I first came I began investigating the poultry situation. Some claim there is no money in it whatever, while others say they have made a fortune out of poultry alone. So I saw that I must have personal experience to know, or must meet someone I could believe would give me the exact figures.

I met a gentleman who told me he had 30 hens on a city lot. That looked like a good many to me and I asked him if he thought they paid. "Well," he answered, "to be exact, they average me about \$20 a month clear of expenses." Certainly it seems to me that is rather good pay. Think what a help that would be to many a family struggling along on what the head of the family can make at wages, with living expenses as they are at the present time!

But I was not satisfied. The next interview I had was with a lady and she had 400 fine White Leghorns on a city lot. It hardly seems possible, but seeing is believing, and I saw them. A finer lot of birds I never saw together, either. I asked her if they paid and, while she did not give me any actual figures, she laughed and said they certainly did or she would not be keeping them.

I have found that most of those who claim they do not pay are about such people as you will find everywhere—those who do not give their fowls the care they should have and who never keep an account of what is bought and sold. Of course this system or lack of system, in poultry raising never pays anywhere.

Still another lady who has only a lot at her disposal has at present about 550 young chicks and 50 hens. She sells some of the young for fries and disposes of all but about 50 by the beginning of the winter, keeping the finest pullets for winter layers. This is not her first year, so of course, it pays.

Among them they convinced me of the practicability of the plan and so I am trying chickens on a city lot at present. What my success will be remains to be seen. I am writing this, however, to show what others have done and to help, if possible, those who have but little space at their command, and those who, although on a farm, cannot allow their chickens to run for one reason or another.

Of course, where chickens cannot run at large they must have green feed provided for them, and where this may not be obtained in any other way it may be done by sprouting oats or, what is more commonly used here, barley. Here they simply lay the seed on the ground, cover with gunny sacks and keep them wet by sprinkling every day until the sprouts are well started. If you never tried this, try it once and the behavior of your chickens will convince you this is what they like.

California.

IRMA B. MATTHEWS.

HAVING \$2,000, IN WHICH SHALL I INVEST, A FARM OR BEES?

Of course, we might say at the start that this depends largely upon the man, for if a man were naturally adapted to bee-keeping and not to farming it would be a foregone conclusion that he would succeed best with bees, and vice versa. But this article supposes the man to be equally well adapted for farming or bee-keeping.

First, we will get as near as possible to the average income from a farm that can be bought and equipped with \$2,000. As we are not going to allow either man to go in debt, the whole \$2,000 can not be applied on the purchase price of the farm. At least \$600 must be reserved for stock, tools, etc., leaving a purchase price of \$1,400 for the farm. This will perhaps buy a fair forty-acre farm, but not allow for any very expensive buildings.

We will figure this farm as having every acre tillable. Now what is the average value per acre of the crops secured from the farm? We can only make an estimate of this, but will try to put the figures high enough to be on a safe basis. The average corn crop I do not believe will exceed 50 bushels, worth 30c a bushel, and 150 bundles of stalks worth 3c each. Total income, \$19.50. The average potato crop will not exceed 75 bushels per acre, with an average selling price of 35c per bu. in the fall, which will bring \$26.25.

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Wheat, 10 bu. per acre, value \$1.00 per bu., income, \$10. Oats, 25 bu. per acre, value 40c per bu., income \$10. Rye, 10 bu. per acre, value 70c per bu., income \$7. Hay, 1 ton per acre, value \$8 per ton, income, \$8. Beans, 8 bu. per acre, value \$1.50 per bu., income, \$12, and so on through the list, these seven being the staple crops grown on the average farm. Averaging these crop values we find it gives about \$13.25 income per acre. Of course we must have pasture land, garden spot, barnyard, etc., but we will figure that these bring in, for the purpose used, as good an average as the rest of the land. Thus we have 40 acres at \$13.25 or a total income of \$530 from the farm.

Bees Will Yield Better Returns.

Now we will suppose we had invested this \$2,000 in bees and bee supplies. We could buy 200 colonies of bees at say, \$4 each, a total of \$800; 600 extracting supers, complete with foundation, \$750; power extractor and engine, \$100; tanks, capping melter, wax press, honey boards and bee escapes, and the various small tools needed in the apiary, \$150; horse and wagon, \$200, a total of \$2,000.

The average yield per colony run for extracted honey will be about 75 lbs., which will bring 8c per lb., making the income per colony \$6; total for 200 colonies, \$1,200, with perhaps 200 lbs. of wax at 30c per lb., or \$60; entire income \$1,260. To make the comparison fair we shall have to deduct from this about \$200 for rent which the bee-keeper will have to pay, not having a house of his own as has the farmer.

So far we have said nothing about the cost of living, which will be not far from the same for the bee-keeper or the farmer, for although it is a fact that the farmer raises his own living on the farm, it has all been figured as income and will, in the end, have to be deducted from the net proceeds. The average man with a small family will find he must live fairly close if he gets along on \$500 a year, but to be as fair as possible we will figure it at \$400. Giving the bee-keeper the same amount to live on, we have for net profits, \$130 for the farmer and \$660 for the bee-keeper.

But, you will say, some bee-keepers will not be able to produce this amount of honey per colony. I say no—but the average one will, and there are more farmers who will fail to produce the amount stated on a \$1,400 farm than there are who will come up to that. You may say there are men who will produce many times that amount from a forty-acre farm. Very true, but these men are the exception and it is not generally on \$1,400 forty-acre farms where these men are found. I may also state that I know of at least one bee-keeper who produced \$2,500 worth of product last year from 135 colonies; also one other who, without any capital whatever, bought 200 colonies of bees two years ago, going in debt for everything, and from the proceeds has paid for everything and increased to 350 colonies, thus nearly doubling his capitalization and paying for it complete, with the exception of \$250 which he still owes. This gentleman has a fair share of the comforts of life, including an automobile, coming from his income from bees. The first season's crop from his 200 colonies brought him \$2,000. Of course this man understood the business before he went in debt for the bees.

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L. C. WHEELER.

New Poultry Books.

"Poultry Breeding" is the title of the latest addition to our poultry library. Its author is Mr. Miller Purvis, a recognized authority on poultry matters whose practical experience in, and study of, the industry began nearly thirty years ago. In this volume of over 300 pages he has placed in easily available form the latest and best information obtainable upon all phases of his subject. The book is intended to prove a handy reference volume for the busy poultryman, the topics treated being arranged alphabetically. It is well illustrated, the excellent photographic reproductions of all varieties of poultry, including turkeys, ducks, geese and guineas, proving valuable supplements to the text. Mechanically, the book is also very satisfactory, being printed in large type, on first-class paper, and substantially bound. It is from the press of the Sanders Publishing Co., Chicago, and may be ordered through this office at \$1.50 per copy.

A book which will prove of special interest to poultrymen who depend mainly upon egg production for their returns is "How to Keep Hens for Profit," by C. S. Valentine. This is a well-bound book of nearly 300 pages, published by the Macmillan Company, of New York, devoted largely to the profitable handling of laying hens of the breeds comprising the so-called American class. It contains the latest ideas on the building up of 200-egg flocks of layers, the most modern methods of feeding, housing, etc. The price of the book is \$1.50 per copy and it may be obtained through the Michigan Farmer.

Driving along it will be observed that some fields of

wheat

are much better than others, although the soil may be the same and the farmers had an equal chance to obtain the same results. The good field would probably thresh 35 bushels of wheat to the acre, while the other farmer will get about 20 bushels from the poor field. He will be lucky to get that much.

Now the question is, in normal seasons who is to blame for the short crop? No one but the farmer himself. He pockets the loss and struggles along away behind his wide-awake competitor, constantly complaining about short crops and hard times, because he cannot compete with those farmers who produce their crop at less cost. Therefore, it should be the aim of every farmer to get out of the soil all that it can bear. Every bushel raised in excess of normal production means a pure gain and gives him an advantage over his competitors, and this can be accomplished only by the liberal application of our

fertilizers

Some Fertilizers are better than others. Yes, very much better. There are inferior goods on the market. Competition from that source makes our position stronger in the Fertilizer business. It takes one season for the farmer to find out the difference. A wise farmer will not run the risk of getting short crops by experimenting with an unknown brand of Fertilizer of uncertain quality, but will buy the well known goods that have stood the test, the kind that he knows to give satisfaction.

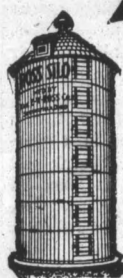
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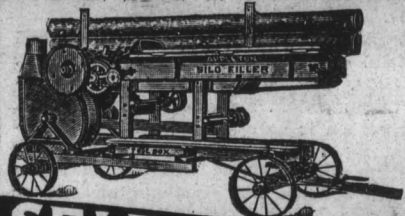
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