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FARM NOTES.

Maintaining Soil Fertility.

Another person and I had a discussion in which he maintained that more money could be made from a small farm by keeping just the animals necessary for cultivation, such as two horses and one cow, selling all the stuff raised and keeping the land rich with clover, than by keeping more live stock. I say the smaller the farm the more necessity of live stock for money making and successful farming. Another person says he believes one can keep clay up with clover but not sand. Now will you please answer this? Is there any more necessity of having live stock on a small farm than on a large one? What would be the difference on the average farm in the income, where just the necessary stock is kept for cultivation, or where plenty of live stock is kept to consume all raised and make a profit on it?

Gratiot Co. OLD SUBSCRIBER.

This inquiry brings up an important question relating to the best agricultural practice, and one which is not so easily answered as would at first appear. Theoretically the fertility of the soil can be better maintained by maintaining a maximum amount of live stock on the farm, and feeding out all of the products grown to them and returning the manure to the land. Without question, this system of farming will better maintain the fertility of the soil than the system of growing and selling crops from the land each year without the addition of supplementary fertilizers, as will be explained later. But there are serious objections to this plan of carrying a maximum quantity of live stock on the farm as this is ordinarily done. Generally the man who follows this plan has his farm all fenced so that he can utilize all his fields for pasturing stock and where a maximum amount of live stock is carried on a small farm under these conditions the owner generally finds it necessary to pasture all his fields closely. Particularly in a dry season is this necessary, and the fields used for pasture are not only closely cropped, but as soon as the aftermath starts in the meadows the stock is turned in and these are pastured closely, and if the new seeding makes a good growth it is treated in the same way on a great many farms. The inevitable result is the shortening of the next season's crop of pasture grass and hay, and besides this the close grazing of the land deprives it of needed protection in both summer and winter, packs the soil to an injurious extent and leaves little vegetable matter to plow down to keep up the supply of humus or vegetable matter in the soil, which is quite as necessary to maintaining its fertility as to have plenty of available fertility in the soil. Upon the humus content of the soil will depend its ability to hold moisture for the use of growing crops if it is an open and porous soil, and to keep it in a good mechanical condition and improve the natural drainage if it is a heavy, and impervious soil. Theoretically, of course, if the grain and forage grown is returned to the land in the form of manure this objection will be

overcome, but there are unavoidable losses of both plant food and humus in the handling of the manure, and it cannot be distributed evenly over the whole farm sufficiently often to well maintain the humus content in the soil, provided only home-grown feeds are used in its production. Then the stock in pasturing the fields will distribute their droppings very unevenly. In the end the result will be uneven seedings of clover and occasional failures due to drouth as the humus content of the soil is reduced by the methods outlined and in spite of the fact that the farm is stocked to its limit, the owner will be surprised to find that it grows less productive instead of more fertile as the years go by.

So much for the practical side of this method of farming as demonstrated by practical experience and observation. Now for its scientific phases. In a recent bulletin published by the Illinois Experiment Station, Dr. Hopkins maintains that no system of live stock farming will permanently maintain the fertility of the soil for the reason that live stock husbandry does not add the mineral elements of fertility to the soil. In fact, even the growing of live stock and selling it from the farm gradually removes the mineral elements of fertility from the soil, as even in this way some of the phosphorus and potash, which are essential elements of plant food are sold from the farm. The nitrogen content of the soil can be main-

to maintain that of our own farms, to which process there is an obvious limit.

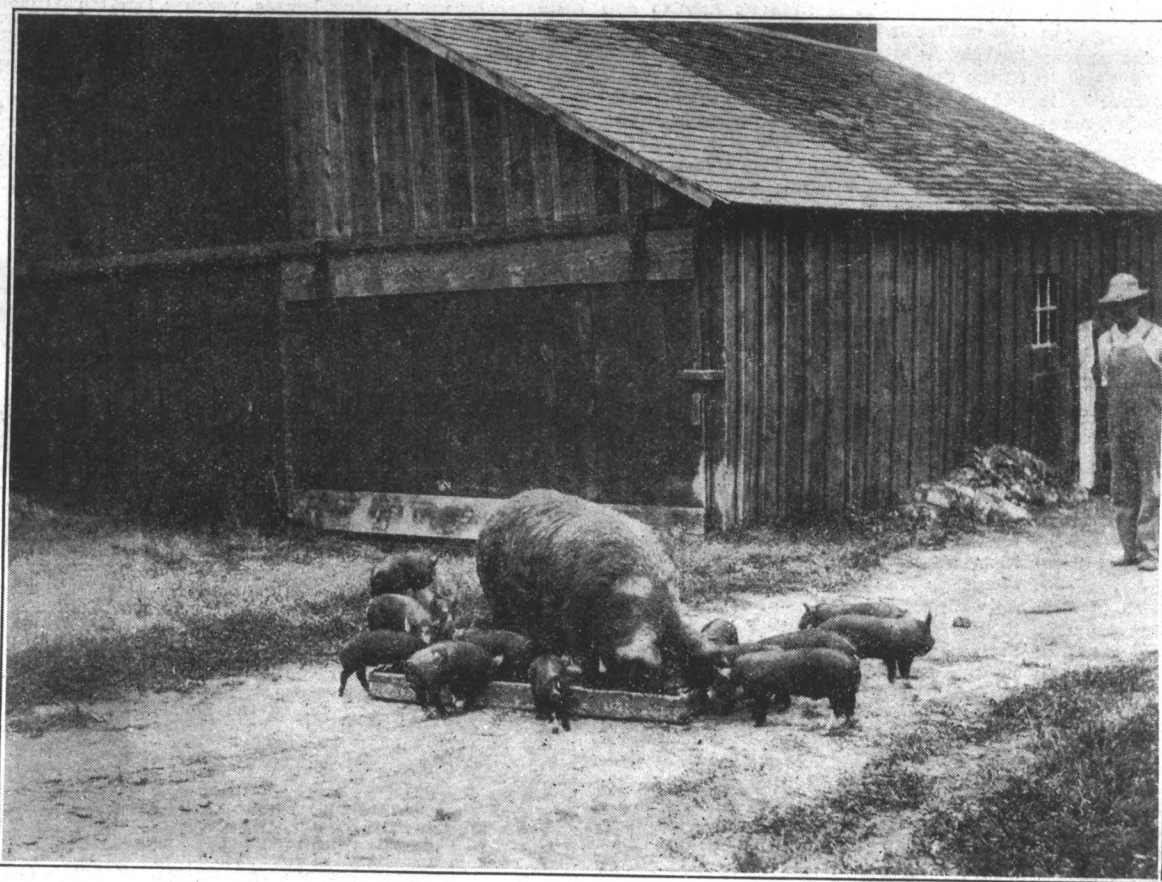
If these conclusions are correct, can the fertility of the farm be maintained by exclusive live stock farming, and if so, how? A practical answer to this question is essential to the solution of the problem submitted in the above inquiry for the reason that the maintenance of the fertility of the soil is essential to the securing of a maximum profit from any system of farming. The writer's answer to this hypothetical question would be that it can be profitably done, but only by the specialist. As a first essential the farm must not be overstocked and the products sold must be of a high class, that will command good prices on the market. The common or inferior live stock or live stock products produced on the average farm by the average methods in vogue at the present time will not yield a profitable income. First among the live stock specialties which may be profitably employed to this end by the small farm owner, would come dairying, for the reason that a minimum of actual fertility is sold from the farm in the marketing of dairy products, and dairy cattle are best adapted to the methods of feeding which are best suited to the maintenance of soil fertility for the reasons above noted, since but a small area need be devoted to pasture and the balance of the ration can be made up of supplementary feeds. Where this kind

provement of the character of the herd, yield a profitable and constant income that will compare favorably with that which may be secured from any other method of farming. Or, if the owner of the farm does not like dairying, the production of high class breeding stock of some of the improved breeds, if he has the liking and ability for this work, or the growing of high class horses for the market, or the production of market hogs as a specialty may be made equally profitable. For the larger farm the production of beef and mutton may prove better adapted. It is largely a question of the personal equation in determining what line of live stock production shall be followed, but the principles above laid down will obtain in any case.

Now let us for the moment consider the other system of farming advocated by one of the parties to this discussion. Without question, the policy of continually cropping the land and selling everything grown from the land would prove a ruinous one in the end. While the cash returns might be large for a few years, the fertility of the soil would be rapidly depleted until it would finally reach a point when its cultivation would no longer be profitable, as is attested by thousands of abandoned farms in some sections of the east and south. It has, however, been demonstrated that the fertility of the soil can be maintained with-

out the keeping of live stock by judicious methods of crop rotation and supplementary fertilization. By plowing down clover frequently and in sufficient quantity to maintain the humus content of the soil at a desirable point and in this way also supplying nitrogen, which the clover has the power of appropriating from the air, and by supplementing this with the mineral elements of fertility in the form of a properly compounded commercial fertilizer, it has been found possible to effectively maintain the fertility of the soil for an indefinite period. In this case the income derived from the farm would, of course, depend upon the value and quantity of the products raised, but here, as in live stock production, it is the specialist who will reap the largest profits. The special cash crops which may be most profitably grown will depend very largely upon the conditions which surround the individual case, and somewhat upon the tastes and inclination of the farmer. But relative comparisons between the profit to be derived from the two methods of farming are obviously impossible, since so much depends upon the man who is managing the farm.

As to the relative merit of the two methods, or a combination of them, for different classes of soils nothing more definite can well be said. A clay soil contains more inert or unavailable plant food than a sandy soil, and some enthusiasts have claimed that a good strong soil contains sufficient of the essential elements of fertility to last indefinitely in the production of crops, provided proper



A Big Family of "Mortgage Lifters" Photographed on the Farm of C. S. Bartlett, Oakland County, Mich.

tained by the growing of clover and other legumes, but there is no way to replenish the mineral elements of fertility except to purchase them in the form of commercial fertilizer. True, where the farmer purchases feed grown off the farm and feeds this to the live stock maintained on the farm in addition to that grown there, this need, as well as the need for maintaining the humus content of the soil is met in a practical manner, but this is robbing other soil of its fertility

of farming is specialized the purchase of a limited amount of concentrated feeds to balance up the ration and the use of good methods in the conservation and application of the manure will make it possible to maintain the fertility of the soil indefinitely, and in many cases to actually increase it by increasing its humus content and bettering its mechanical condition, where judicious methods of farming are employed. This specialty will also, with proper attention to the im-

methods of cultivation are employed to make this fertility available. Soils of just the right mechanical texture are, however, much more fertile and a more lasting power of production than either, and the theory above noted cannot well be proven by specific examples. But no matter what the soil, a good mechanical condition is essential to a maximum fertility, and supplementary fertilization has been found to be profitable even where chemical analysis has shown an abundance of actual elements of plant food, hence a discussion of this theory would hardly be profitable at this time. Different soils require different handling for the best results, but the essential principles noted in the above discussion of the problem presented in this inquiry will apply with nearly equal force to average soils of varying grades and to the large and the small farm alike.

The gradual but certain decrease in the productive power of our soils as compared with their virgin state is so apparent as to suggest that there has been something radically wrong in the average methods of handling them. For this reason a little careful thought on the above proposition by every reader who is not satisfied with the results which he is getting will be time and energy well spent.

LILLIE FARMSTEAD NOTES.

Alfalfa.

We have finally sowed the alfalfa which we intended to sow a great deal earlier in the season. The wet spring retarded the farm work so much that it was impossible to get it in properly on time, so we deferred the sowing until August. Along the first of August we had a fairly good rain which enabled us to apply the fertilizer in good shape. We had recently put on a ton of lime per acre and worked it in. But before we had properly fitted the field it had got rather dry and I was a little afraid about sowing the seed for fear the dry weather would continue; but I knew it was to sow it then or never, because other work was coming on. Fall wheat had to be prepared for, and so we sowed the seed and as luck would have it, we had scarcely got the field top dressed after sowing before we had a splendid rain and the alfalfa is germinating and coming up in fine shape.

As I have stated before, my original idea was to sow alfalfa in connection with other grasses as suggested by Dr. Beal in the Michigan Farmer the latter part of last winter, but my friend Lawson, in criticizing that idea, suggested that I ought to sow alfalfa alone and so I changed the plan and sowed part of the field to alfalfa alone and part of it with a mixture of other grasses. Since friend Lawson's criticism in The Farmer, I have had the pleasure of talking with him about it and found that he and others had a wrong idea with regard to sowing alfalfa with other grasses. They got the idea that I was trying to get the best stand of alfalfa, that a mixture of other grasses would improve the chances of getting such a stand of alfalfa. Now, this was not the idea at all. The idea was that by mixing other grasses with the alfalfa seed, we would be more apt to get a big crop of hay, that is, a combination of alfalfa, meadow fescue, tall meadow oat grass, common red clover and some timothy would produce a larger yield of hay than alfalfa alone. Since this short discussion in the Michigan Farmer I have also had the pleasure of seeing Dr. Beal personally and talking with him about it and I find that his idea comes from England, which is such a wonderful hay producing country, where farmers get their large yields of hay largely from the practice of sowing a mixture of grasses. We Americans, he says, depend too much upon one grass or one clover, while in England they sow a combination, and consequently get larger yields. Any practical farmer can realize the force of this argument if he has sown clover and timothy together. On some portions of the field he will get a better stand of clover than timothy, but on the other portions he will get a better stand of timothy, and the reason why is hard to explain. In many places where one plant fails to catch, the other does, and consequently a bigger yield for the field results. Now that is the idea of mixing other seeds with alfalfa.

The field sown to alfalfa contains exactly eight acres. On either end of the field I have sown alfalfa alone and thru the center of the field, and probably two-thirds of the field, we have also sown orchard grass, meadow fescue, tall meadow oat grass, and some timothy. Then I have sown three different kinds of alfalfa seed. Part of it is the Grimm

alfalfa of Northern Minnesota, part of it was furnished by the Department of Agriculture, which, by the way, is labeled "lucerne," and part of it is said to be Montana, or northern grown seed. Again, part of all three of the different kinds of seed was inoculated with nitro culture obtained from the experiment station at Lansing, and part of it was not. All of the field, with the exception of a narrow strip was treated to one ton of lime per acre. Then 500 lbs. of good commercial fertilizer, analyzing 2 per cent ammonia, 9 per cent phosphoric acid and 5 per cent potash, was applied and worked into the soil.

After the seed was sown, it was harrowed with a spike tooth harrow, then it was rolled with a corrugated roller and finally the whole field was top-dressed with stable manure by the aid of the manure spreader. It is only fair to say that this field was not in very good condition. It was on some land that I purchased last winter that had received very little stable manure for the last 20 years. Some of it is quite light soil. There is a little clay in one end of it. Some of it was so wet that I tile drained it, but the most of it did not need tile draining. Consequently, I think that the top dressing of stable manure will only put the land in ordinary condition. Perhaps the 500 pounds of commercial fertilizer is a little extra. The lime certainly is extra. I have done the job up as good as I know how and we will wait for results.

WHEAT AS A NURSE CROP FOR PERMANENT PASTURE.

I have an old piece of June grass sod which I wish to put to wheat and seed to permanent pasture. What grass shall I sow this fall and what next spring?

Washtenaw Co. E. W. M.

I do not like the idea of using wheat as a nurse crop for a permanent pasture, because in permanent pasture you ought to have a combination of grasses in order to get a good stand and a permanent crop, and it is difficult to get this thick stand of grasses that we ought to have for permanent pasture, with a nurse crop. Then again, some of the grasses are clover that we use in a permanent pasture, and ought to be sown in the spring, rather than in the fall. Red clover, for instance, unless on the most favorable ground will not get root enough to withstand the severe winter if sown at the time of sowing wheat. On some of the more sandy, gravelly soils the fall may be as good a time as any to sow clover, but it will be much safer to sow the clover in August than in September at the time you sow the wheat. It should get a good start and a good root to withstand the rigor of an ordinary Michigan winter. Again, if we use a combination of grasses, which experience has proven to be most valuable in a permanent pasture, you will have all of the plants that can be possibly grown together without attempting to grow wheat, consequently, I think Mr. Martin would make a greater success out of his permanent pasture if he would plow his June grass sod this fall, prepare it somewhat, and then early in the spring finish the preparation, get it in good condition, subdue the June grass, and seed to permanent pasture grasses and clover. Probably as good a variety of grasses as he could have for a permanent pasture would be timothy, orchard grass, tall meadow oat grass, meadow fescue, redtop, common red clover, and alsike clover, and perhaps a little alfalfa. We do not know enough about alfalfa yet to know how it would do with a combination of this sort, but if it could be grown in this combination it certainly, with its lasting qualities, would be a wonderful addition to a permanent pasture. If I wanted to seed this field to wheat and to use these grasses, I believe I would sow them all at the time of sowing the wheat, because many of these grasses if sown on the wheat in the spring, will stand little if any chance of getting any start. Of course, the timothy and some of the other plants can be sown this fall and will live thru the winter. These plants will get a start and red clover and alsike clover and some of the other grasses sown on in the spring will have but little chance to get a foothold and consequently will amount to but little. The timothy will get the start and will choke them out.

There is another thing to consider. By putting this June grass sod into wheat, it is doubtful if the June grass will be properly subdued. This is a persistent grass and requires thoro cultivation to subdue it. I would suggest that Mr. Martin put off his permanent pasture for one year, that he fit this ground and put it into wheat this fall without seeding

and then just as soon as the wheat is taken off next summer plow it and fit it thoro and then sow it to the permanent grasses along the first or middle of August without any nurse crop. By raising the wheat and then plowing in mid-summer and thoro fitting, he will be much more apt to subdue the June grass and it is quite necessary that the June grass be subdued if you want to get a permanent stand of the other grasses. Then, with all this work, the June grass will come back in again all too soon.

COLON C. LILLIE.

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To Light Your Home.

Ten years ago it was customary for the man who was showing his country home to his friend from the city, to say apologetically, "Of course, we haven't the conveniences here that you have in the city, but then, you can't expect to have everything you want when you live so far away from the city." But of late years, modern progress and invention has given more serious attention to the home in the small town and in the country. It is now no uncommon occurrence to find a country home equipped with bath room, hot and cold running water, and lighting gas piped into every room in the house. In this latter particular, country homes have felt the greatest need. There are several forms of relief now offered the suburban or rural home, and among the best of these is a combination gas machine, which gives the home what is actually a gas plant of its own right on the premises. This ingenious invention can be set up in one corner of the basement or cellar, and requires little or no attention at all. It supplies a gas that is perfect to the different rooms of the house, just like city coal gas, and like city gas it can be used equally well for both heating and lighting. Ordinary burners, open or fitted with the usual gauze mantle, are used for lighting, and the light produced is clear, white and brilliant. The gas is ready to turn on and light at any time. No generation is required. The fuel used is gasoline, stored outside of the house, and buried in the ground. In most cases it need be filled with fuel about once every six months, and needs no other attention. With this ingenious device the gasoline vapor is mixed and automatically held in correct proportion, which is 15 per cent vapor to 85 per cent air. The result is a clear, white light that does not smoke or fill up the room with noxious odors. Gas can be produced by this method at a cost not to exceed one-fourth of a cent per hour for an 80 candle power burner. This is very low, indeed, and few city dwellers can buy their light as cheap as this. These machines are made in various sizes, and can be used to light the home, or to light entire villages and communities on a co-operative basis. They are to be classed as among the most beneficial inventions produced today for the rural home.

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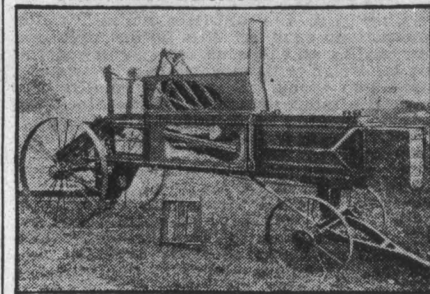
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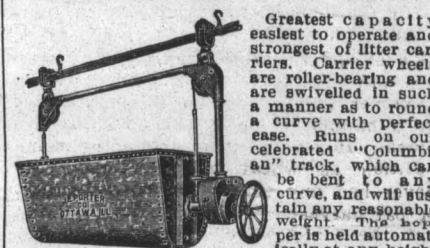
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LOADING HAY BY MACHINERY VS.
BY HAND.

Will Mr. Lillie tell us how he loaded his hay this year?
Livingston Co. C. H. HILL.

I have to confess that we did not use the hay loader this year at all. Last year it got so that the apron bothered somewhat. A number of the slats were broken and we broke the drive chain in two or three places and fixed it the best we could. It bothered some. So I thought this year it would pay better to get a new apron, consequently I made an investment of \$15 for a brand new apron and we have never unrolled it. In fact, we have never had the loader out of doors. The reason is, of course, because we began a new system of making hay this year. As I have explained before, every bit of our hay was made in the cock this year. It was mown down in the morning, tedded out, raked out and cocked up that same day. Then hay caps were used and it was left in the cock until it was cured and ready to go into the barn. Consequently, in this way the hay loader was not practical. I suppose the cocks could be spread out with very little trouble so that you could go over them with a hay loader. But after the hay has been cocked up, it is not a difficult matter to pitch it on by hand from the cock. It is very much different pitching on from the cock than from the windrow, because it takes so long when the hay is in the windrow to get a convenient forkful to put onto the load. But this has all been done beforehand and two men will pitch on from the cock as fast as you can unload in the barn with either hay fork or slings. One afternoon this year, two men from one o'clock until six, pitched on seventeen loads of hay, which is about as good work as could be done with a hay loader. In one respect, I don't know but this is going backward a little because, with this system of making hay, it takes a little more labor to draw the hay. That is, it takes more men to do it fast; but, on the other hand, if one can go into a field of hay and cut it down and cock it up, and then leave it until there comes a proper day for hauling, and all hands go to hauling, it systematizes haying very much. It places it in about the same position as wheat harvest. Now, we never had any trouble in wheat harvest or oat harvest. We simply went on and cut the grain when it was the proper time, shocked it up and then, after it was properly cured in the shock and there came two or three days of good weather, we went to work and hauled it in. But with the hay it was different. We attempted to cut down only what we could get up before a rain. It was made in the windrow, and by doing that we were always afraid of the weather and sometimes put it into the barn too green to avoid its getting wet. We never knew how much to cut down, we could not figure on putting in full days, nor anything of that sort. At present I don't know what I shall do with my hay loader. I will not sell it, I shall keep it. It may be in a few years I will want to use it, but the present indications are that we will not use a hay loader in haying very much hereafter. If I was cutting hay to sell, I doubt if I would make it in the cock as we have done this year, because you couldn't sell it for enough more to pay for the extra expense; but I want all my hay to feed. I have to go outside of my farm and buy feed anyway. Now, if by handling my hay in this way, I get more nutrients out of it, then as a business proposition it pays me to put a little more money into the hay and cure it in better condition, and consequently get more out of it and not be compelled to buy so much outside of the farm. But to sell it under the present condition of the market it would not pay, because people would not pay an extra price for an extra quality of hay.

COLON C. LILLIE.

Are You Taking the Other Fellow's
Weights?

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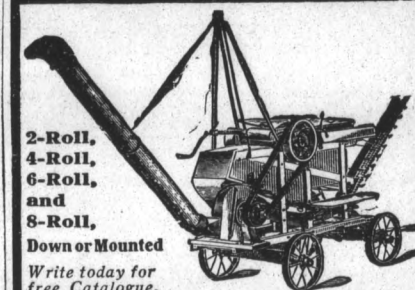
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LIVE STOCK

THE LIVE STOCK AT THE STATE FAIR.

Owing to the fact that a good many flocks and herds that were entered for the State Fair this year were shown at Columbus the preceding week, the officers of the State Agricultural Society found it necessary to make a ruling permitting exhibitors to place their stock as late as Monday of this week, so that it was impossible to begin judging as early in the fair as has heretofore been customary.

The show of live stock in all departments is particularly good. The exhibits of cattle largely outnumber those of last year, while the number of sheep and hogs entered is nearly as large as last year's entries and the classes are filling better than they did for last year's show. It has been found necessary to erect a temporary show room outside the show barns to accommodate all the entries, quite a class of sheep being exhibited in a large tent near the stock barns.

The quality of the exhibits that were early in place was particularly good and, as the stock coming from the Columbus show is in good form, the contests for the prizes is certain to be spirited.

Owing to the lateness of the judging, we are unable to present any of the awards in this issue, but they will be tabulated as fast as the classes are judged and we hope to give a full list of the awards in the live stock classes in our next issue.

FEEDERS' PROBLEMS.

Corn Versus Corn Meal for Hogs.

In the discussion of the relative feeding value of corn and corn meal for hogs which will be found in another column, Mr. Ingham gives some comparative results which are not in line with the replies to similar questions which have been published in this department, hence we give the source and character of the information upon which such answers have been based, in order that the reader may have all possible information at hand upon this phase of the question discussed, apart from the question of hogging down corn to which it is incidental. In his work on Feeds and Feeding, Prof. Henry, of Wisconsin, while admitting that this subject has not received the attention at the hands of our experiment stations which its importance demands, has collected available data resulting from trials at several stations and has supplemented this by carefully conducted experiments of his own to arrive at as nearly a correct understanding of the problem involved as is possible without elaborate and long continued experimentation. In tabulating and comparing the results secured at the Kentucky, Ohio and Missouri stations he found that in averaging the results secured at these three stations 543 lbs. of whole corn or 532 lbs. of corn meal were required to make 100 lbs. of gain or a saving of only 2 per cent for grinding. To secure more information on this subject he then conducted a series of experiments in 1896 and 1897, making two trials each year with two evenly divided lots of pigs. In all 70 pigs were used in these trials, making the average results secured more dependable than where a smaller number are used as the individuality of the animals would influence the results proportionately less. Some other feeds were used in these trials to make up a ration such as would properly be used with pigs of the size and age used in the trials by the average feeder, the same quantities of these feeds being used with both lots in every case. A summary of the results obtained shows that 499 lbs. of whole corn and middlings or 459 lbs. of corn meal and middlings were required to make 100 lbs. of gain, or a saving in the grinding of the corn of 8 per cent.

As these figures are derived from authentic experiments under conditions such as may be supposed to obtain upon the average American farm, we have concluded that a mean between the results secured would be likely to represent the average results which would be obtained by the two methods of feeding, and have consequently advised inquiring readers that the best available data showed an apparent gain of about 7 per cent in the grinding of corn for pigs. When it is taken into consideration that these experiments were apparently with shelled corn, which the pigs would eat more rapidly and probably with a greater loss

from poor mastication than would be the case with ear corn, this would appear to be sound advice.

HOGGING OFF CORN FROM THE STALK.

An experiment was made at the Minnesota station a year ago, of turning hogs into a field of corn, allowing them to pull down the stalks, and consume the corn at will, and the professor declared, "That the idea of hogging off corn is a shiftless way of farming, is based neither on facts nor good judgment." They admit that the practice was not uncommon in Ohio 25 or 30 years ago, but "was not followed extensively because it appeared to be a shiftless, untidy way of farming and harvesting corn, and it was not believed that the hogs made as good gains as when yard-fed, or closely confined." That hogging off corn was tried by intelligent farmers in Ohio, and abandoned would seem to be prima facie evidence that the practice was not found to be economical in that state. In the first place, it is admitted that the stalks are entirely wasted, but the professors say, "That good timothy and clover hay can be produced as cheaply per ton as corn can be saved." That proposition does not appear to be sound, and they should show the figures. I do not know how cheaply hay can be produced in Minnesota, but farmers cannot afford to sell their crops for the cost of production. They must have a profit for raising, to support their families, or go to the poor house. Choice timothy hay is worth \$10 per ton in Chicago today, and it must be worth \$8 per ton in Minnesota. With a corn harvester 10 acres, or 100 tons of corn can be cut and bound in a day at a cost for labor and twine of not more than 40 cents per ton. The writer has wintered 25 head of cattle, and wintered them well, entirely on good corn stalks, and sold his hay. These cattle, had they been wintered on hay, would have devoured more than one ton, each worth \$8 per ton in the barn; therefore, the stalks, by saving 25 tons of hay, were worth \$200 in cash, and if saved in good condition would have been worth \$200 in Minnesota, if hay is worth \$8 per ton there.

I have had my field corn cut by hand, and put into good stocks, well bound, for one-half the stalks, so that one-half the stalks cost me nothing except drawing to the barn. With the corn harvester, the expense of cutting would be less. In an experiment reported by C. A. Waugh, he says the fodder "was not badly mused by the hogs," and sheep turned into the field ate off the leaves from the stalks. It should be remembered that the leaves are but a small part of the fodder. In hogging corn, a considerable quantity is inevitably wasted in two different ways. The first is, the hogs pull down more ears than they can eat off clean. They are so greedy they never eat off all the kernels, and some get shelled and, together with the kernels left on the cobs, get trampled into the mud, from which they will not eat it so long as there is any ears still on the stalks to be pulled down and by which time the corn in the mud will be moldy or rotten.

The second way in which corn is wasted by hogging, is in not being properly masticated and digested. In feeding hogs economically, it is necessary to have the grain reduced to fine meal to enable the gastric juices of the stomach to penetrate the mass in all directions, and give the absorbent vessels a fair chance to appropriate all the nutriment from the food. Feeding whole corn never does this. Every observant feeder has seen in hog dung that much of the grain has not been properly masticated or digested, and that, so far as the hog is concerned, is a dead loss, and also to his owner, unless some of the broken kernels are picked out by chickens. I have seen broken kernels of corn in the dung of my own hogs when fed on whole corn. A neighbor showed me his hogs, which he was fattening on whole buckwheat, and I showed him whole kernels, and broken kernels in their dung.

Dr. Lehman, of Saxony, German, analyzed the droppings of hogs fed on whole grain and found that 50 per cent was undigested, and had not been of any value to the hogs. He says: "Food should be reduced to a condition more or less fine before given to such animals."

At the Maine Agricultural College it was found that the feeding value of corn meal was, weight for weight, 19 1/4 per cent greater than whole corn. This difference would pay for grinding at a

custom mill, and leave 10 per cent clear profit to the feeder.

In the report of the Department of Agriculture for 1871, it is stated that 20 hogs, one year old, fed on whole corn, one bushel made 10 lbs. of pork; fed on meal, ground fine, one bushel made 13 1/2 lbs. of pork, making a bushel of corn worth 21 cents more for feeding hogs when ground, counting the pork worth six cents per lb.

Joseph Sullivan, a well known hog raiser, proved that corn ground into meal is increased in value for feeding hogs 33 per cent over that fed in the ear. The testimony of many other feeders against the waste of feeding whole corn might be produced if space would permit.

There is a waste in hogging corn because much of it is fed before it is ripe. It has been proved that corn husked September 10th shrank 21.5 per cent in 101 days. In order to prevent the hogs from ravaging the whole field and pulling down all the ears on to the ground and trampling them into the earth, it has been found necessary to fence the field in one acre lots, and confine the hogs on one at a time until they have harvested it. With woven wire fencing, it would cost considerable to drive posts and stretch the fencing so often. It is right to seek ways to save labor and make more profit, but hogging off corn does not appear to be the best.

Pennsylvania. J. W. INGHAM.

AMOUNT OF FLAXSEED MEAL TO FEED TO CALVES.

What amount of linseed meal must be added to a given amount of skim-milk to have its feeding value equal new milk?

Washtenaw Co. E. W. MARTIN.
I would not feed linseed meal with skim-milk. It doesn't make a good food. Linseed meal is a by-product after flaxseed meal is treated to take out the linseed oil for commercial purposes. The residue which is left is rich in protein and not very rich in fat. Now the skim-milk has had the fat removed, and consequently that is rich in protein and not rich in fat. Now, when you mix linseed meal and skim-milk together, you are mixing two foods of practically the same kind. Both are narrow rations rich in protein, but deficient in carbohydrates. Consequently, linseed meal, or the common oil meal on the market, does not assist very much in balancing a ration for young calves. What you want to feed is the ground flaxseed meal before the oil has been removed for commercial purposes. This flaxseed meal contains about 30 per cent fat and consequently is well adapted to balancing up a ration of skim-milk. Now, if you feed a calf ten pounds of 4 per cent milk, it would give the calf 4/10 of a pound of butterfat. This would make a very good ration for a young calf. When you skim this milk, of course you remove this 4/10 of a pound of fat and you want to replace that. One and one-half pounds of flaxseed meal which contains 30 per cent of fat would contain .45 of a pound of fat, or a trifle more fat than contained in 10 lbs. of 4 per cent milk. Consequently 3/4 of a pound of flaxseed meal fed with 5 lbs. of milk would practically balance the ration, giving as much fat as the calf would get in the whole milk. Flaxseed meal, however, is rich in protein and starch as well as in fat and it would hardly do to feed a young calf at first this much flaxseed meal. You would have to begin with a very small amount and gradually increase it. After the calf gets to be several weeks old, he might be induced to consume 1 1/2 lbs. of the flaxseed meal, but this would make an exceedingly hearty ration and I think that he would have to be two or three months old before he would stand as much grain as this. We boil the flaxseed meal and make it into a jelly. A few pounds of flaxseed meal, when boiled, will make quite a large amount of jelly. Then we give the calf a gill, or such a matter, of this flaxseed meal with his milk. It doesn't practically furnish the amount of fat which was removed from the skim-milk, but skim-milk itself contains a little fat after it has been skimmed and then the other feed which a calf eats also contains a little fat, consequently it is not necessary to supply the whole amount of fat which is removed from the skim-milk in the process of separation. When the calf gets old enough so that he needs more than 10 lbs. of skim-milk a day as a ration he will eat considerable hay or corn silage, or other food, and consequently he would get considerable fat out of this and would not need 1 1/2 lbs. of the flaxseed meal.

COLON C. LILLIE.



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FEDERAL MEAT INSPECTION.—II.

In the inspection of meats by the Bureau of Animal Industry, after the animals have run the gauntlet of live examination, those which have appeared to the inspector sound and healthy are conveyed thru runways into the slaughter-houses. Here, in the larger establishments, the work of butchering proceeds with wonderful system and rapidity. From the time the steer is knocked in the head to the time when he has been completely cut up and disposed of, at least sixteen different butchers have been at work upon him, and each step is watched by lynx-eyed officers of the government. Where blood is to be used for food purposes it is caught in a numbered receptacle and held until the carcass is further examined. The fat removed from the abdomen is placed in a numbered box for identification. At the first exposure of the glands when the head is severed an inspector makes an examination for tubercular infection. Another inspector stands at the elbow of the gutter and as the viscera are revealed watches with practiced eye for abnormalities, carefully examining and handling various parts to discover any obscure indication of disease. When he finds a diseased carcass he attaches a tag, "U. S. Retained," with a number. Then the carcass with all the parts that have been separated, none of which has been allowed to lose its identity, is sent directly to the "retaining-room."

When the inspector finds nothing wrong with carcasses they are hurried along their way, washed in boiled water, scrubbed, and wiped dry with clean towels, and just before entering the chill-room are stamped with indelible ink on various parts, "U. S. Inspected and passed," with the carcass number. The same number follows the carcass from the time it enters the house and is also registered in the Department of Agriculture's records, serving as a sure method of tracing meat about which any subsequent question may arise. Unless meat bears this stamp it can not be shipped from one state into another.

Tuberculosis in Hogs.

Calves, sheep and goats are handled in about the same manner as are cattle, but the slaughter and inspection of hogs are quite different. Following the "sticking" and scraping of the animal, the carcass drops on a moving platform, and a butcher almost severs its head, exposing the cervical glands, where over 90 per cent of the causes of tuberculosis are detected. Besides this butcher stands a government inspector, who examines the glands, feels them, or cuts them with his own knife. If disease is found, the carcass leaves its fellows at the first switch in the hog railroad, is shunted to another rail, tagged "U. S. Retained," and sent to the retaining room. The inspector plunges his knife into a disinfectant solution and passes upon the next hog. When the carcass is split, more inspectors examine the freshly cut halves and where lesions are found in bones or muscles, the meat is sent to the retaining room, where other inspectors make a closer examination and determine whether the carcasses should be allowed to pass unconditionally, be made into lard, or sent to the offal tank.

The retaining room, where the inspected meat is examined, must be rat-proof, with cement floors, well lighted and provided with a special lock, the key to which is kept by the inspector. Here the suspected and retained carcasses are critically examined. By no means all are finally condemned, because the examination of the first inspector has been necessarily hasty. It is his duty to be sure that all meat which he passes is exempt from disease. He must be on the safe side. If there is any question about the carcass he sends it to the retaining room. If a later and more careful examination confirms his suspicions, the carcass is conspicuously stamped, and also the tag "U. S. Inspected and Condemned" is attached, when it is sent to the condemned-meat room and later to the tank. About 25 per cent of the carcasses retained are afterward condemned.

Even in the condemnation and destruction of meats, the utmost vigilance is exercised. All large establishments provide tanks for the reception of condemned meat, as in this way the grease may be saved for soap and other non-edible products and the remainder for fertilizer. These tanks vary in size, are of metal and extend thru two or more floors of the house. From the nature of their usage they must be very strong and tight. Government employes first seal the lower opening of the tank. They then see that

condemned carcasses, parts and meat products are put in, along with offal, or coloring matter. They attend to closing and sealing the top, closing and sealing the draw-off valves, see that the steam is turned into the tank and require it to be maintained at a certain pressure for a prescribed time, to liberate all the grease and even to disintegrate the bones. Inspectors watch also the drawing off, which is done by means of valves located at intervals along the sides of the tank, and they mark the containers in which the product is stored and shipped with the word "inedible." All possible precautions are taken to prevent this grease, some of which looks about as good as some lard, from going into trade as edible product.

Washington, D. C.

G. E. M.

LIVE STOCK NOTES.

Confident expectation of a splendid corn crop in this country is spurring farmers thruout cattle feeding sections to refill their feed lots, and good cattle of this class have been advancing in price. There are large supplies of cattle in western Kansas, where pastures are fine and cattle are doing well. Most owners of these cattle that are suitable for feeders are counting on selling the greater part of them to eastern and central Kansas feeders. One bunch of 1,000 head of Panhandle dehorned cattle that averaged in weight around 1,100 lbs. received a bid recently of \$57.50 per head, but the owner asked \$60 and declined the offer. In the Chicago market more country buyers have been showing up looking for desirable feeding and stock steers recently than at any previous time in months. Pennsylvania, Ohio, Indiana and Illinois were well represented, and there have been many complaints of an insufficient supply of desirable feeders. There has also been a lively demand at the Chicago stock yards for feeding lambs and sheep. A few days ago the demand for stock and feeding cattle received a sudden check on account of dried-up pastures from drouth in various sections, and ordinary and medium stockers sold off sharply. Later there were reports of good rains in various places where most needed, and an early resumption of activity in demand for feeders is expected. Numerous consignments of thin and half-fat cattle have shown up in the Chicago market, but the marked increase in last week's receipts was due to freer marketing of western range cattle.

The use of silage in producing beef cattle for the market is increasing rapidly, and many farmers have found from their own experience that stock cattle put on silage after pasturage is used up keep on growing satisfactorily, it being a great help in profitable short feeding. This year many of the choicest silage cattle marketed in Chicago were shipped from Eau Claire and Barron counties in Wisconsin. This method of making beef holds out great possibilities for stockmen in such states as Michigan, Wisconsin and Minnesota.

A prominent Chicago commission firm that handles sheep and lambs exclusively has sent the following advice to its country patrons regarding the feeder trade: "While we do not wish to dictate to anyone as to what he shall feed, there is such an extraordinary demand for lambs for killing purposes that we are inclined to advise you to feed lambs in place of sheep. It is our belief that sheep are going to sell fully as much out of line with lambs the coming season as they have the past. This is because there is no export demand, nor does it look as if there will be the coming season, and also for the reason that the American people seem to want nothing but lambs. The demand for breeding stock continues fairly good. The high prices received a few weeks ago for choice breeding ewes are a thing of the past, owing to the conditions thruout the south. It is very dry in most sections, and the scab and foot rot scare in Kentucky curtailed the breeding ewe business badly."

Thirteen years ago hogs were selling in the Chicago market for \$2.50@3.30 per 100 lbs.—quite a marked difference from the way swine are selling this year, but hogs are everywhere in unusually small supply, and there is frequently keen competition between the Chicago packers and eastern shippers to get possession of good droves. The stocks of provisions in Chicago and other western markets are greatly reduced, and they are still diminishing steadily, as packers are unable to make much product, the current supplies of hogs being utilized to a great extent for supplying the large demand for fresh pork products. September pork has sold recently on the Chicago Board of Trade over \$8 per barrel higher than a year ago, but the advance in January pork over last year's prices was only about \$2 a barrel. Lard has been in good demand for exportation, and dry salt meats are wanted for southern shipment. Owners of healthy, growing hogs are encouraged over the outlook for a big corn crop to take pains in fattening their stock.

A short time ago C. C. Jackson, of Iowa, showed up in the Chicago market with a car load of prime Angus heifers of his own raising that averaged in weight 720 lbs. and brot the highest price of the year for such stock, \$7.60 per 100 lbs. They were a little less than a year old, and Mr. Jackson was highly pleased with the sale. He said they were given a light feed of oats and corn mixed last winter and were on a full feed since May 1. He added that where farmers raise the calves and intend to fatten them for the market the calves should be taught to eat corn and roughness before being weaned, thereby keeping their calf fat.

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VETERINARY

CONDUCTED BY DR. W. C. FAIR,
CLEVELAND OHIO.

Advice thru 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.

Wounded Shin.—About four weeks ago my 2-year-old colt cut his hind leg by getting tangled in a barb wire fence. The wound has healed fairly well; now I would like to take off the bandage. W. O. M., Oxford, Mich.—You had better wait until cool weather before you treat his shin, then apply iodine ointment every two days.

Thrush.—I have a horse that has a sore frog which discharges pus of a bad odor and I would like to know what to do to correct it? A. H. L., California, Mich.—Dissolve 1 dr. permanganate potash in a pint of water and apply to frog once a day. Also apply calomel once a day. Force a little oakum into cleft of frog after dressing the foot, this will save you trouble in keeping the foot clean. If there is much pus forming use peroxide-hydrogen occasionally.

Eczema.—I have a horse that is troubled every fall with a breaking out of sores around his head. The spots that inflame usually shed off the hair and he does not recover until late in the winter. W. C. M., Onema, Mich.—Apply 1 part bichloride mercury and 500 parts water to sore parts of skin twice a day. Give 1/2 dr. iodine potassium at a dose in feed night and morning, also give 2 drs. Fowler's solution at a dose in feed or water 3 times a day for 10 days, then give the medicine twice a day for 20 days more.

Incisors Teeth Knocked Out.—I have a horse twenty years old that got kicked in mouth, breaking his upper nipper teeth. A growth formed on end of jaw which our local Vet. cut off, but he is unable to stop its growth. This horse eats all right and is fleshy. J. W. C., Rutledge, Tenn.—You will find it difficult to prevent a fungus growth growing on end of jaw. If it is inclined to bleed apply Monsell's solution of iron twice a day. Also apply equal parts powdered alum and borax acid.

Blocked quarter.—I have a cow 2 1/2 years old that gave birth to a calf a little over two months ago. She seemed to do nicely and gave promise of being a good milker. One of her teats began to close which made it almost impossible to draw milk. I have used a milking tube and secured some medicine from our Vet. to inject into udder, but it has failed to help her—the medicine appears to irritate the quarter. What can I do to save the teat? F. W. W., Monroe, Mich.—The quarter is no doubt infected and she will perhaps lose the use of it; discontinue injecting medicine into the quarter unless you are equipped with a return flow syringe; besides, you must use every precaution against infecting the udder. This you have perhaps done. Apply iodine ointment and milk her thru a milking tube. Also give her 1 dr. iodine potassium at a dose in feed night and morning for 10 days.

Barb Wire Cut—Blotches.—Would like to know what to do for a horse that cut himself on barb wire fence. At time of accident he lost so much blood that he got down and was unable to rise. I have been applying iodoform and borax acid—a remedy you prescribed for a similar case. What had I better apply? I also have another horse that is troubled with blotches. S. L. Elmira, Mich.—You are managing the case fairly well. Wounds of this kind fill with a fungus quickly during hot weather, unless the animal is kept in a clean stable during the day time and turned out during the night. Apply equal parts peroxide-hydrogen and water to sore twice a day. One hour after these applications apply equal parts borax acid powdered charcoal and iodoform, covering the wound with a piece of oakum and a light cheesecloth or cotton bandage. Give 2 drs. Fowler's solution at a dose in feed twice a day for the horse that has blotches.

Side-bone—Quitter.—Please inform me what a side-bone is and can it be cured so the horse will always be free from lameness? My reason for asking this question is on account of a horse that is offered to me that is said to have been cured of side-bone by repeated blistering. The owner has been applying poultices. The horse is very lame and has the appearance of a quarter that will soon break open. The horse has not been driven for the past four weeks. The owner tells me that he injured his quarter by trampling himself, but I shall not purchase him without your advice. H. C. C., Metamora, Mich.—I am inclined to believe that the horse has either a suppurating corn caused by gravel or dirt in heel, or he may have stepped on quarter, and no matter which of the causes have brot on his lameness you may find it very difficult to effect a cure on account of the horse having had trouble before. You had better leave him with the present owner until the horse gets well.

Abortion in Heifer.—I have a heifer three years old that has lost her two calves. Will it be worth while to breed her again and what can be done to prevent it? Subscriber, Holton, Mich.—Your heifer having miscarried two calves I am inclined to believe that she suffers from infectious abortion. If you keep other cows I am inclined to believe that you had better segregate her until she fattens then sell her for beef. If you treat her, no matter how thoro the treatment may be, it may prove a failure and if

she is the only one in your herd that has aborted, it is a good plan to get rid of her before she infects any other breeding animals on your place. Fairly good results follow injecting a tepid solution of permanganate potash in three quarts of tepid water, washing out vagina once a day thru a rubber tube with funnel on end—or a 2 per cent solution of carbolic acid acts fairly well, or dissolve 2 grains protargol in each ounce of water and use this solution. The treatment should be kept up until the vaginal discharge ceases and the membranes be free from all inflamed patches or specks. Give her 30 drops of carbolic acid mixed in a quart of water and that mixed in her feed once a day will help her.

Indigestion—Ophthalmia.—I bot a 16-year-old horse last spring that was in fair condition. After working him hard for a while he began to run down and lose strength. Fed him cracked corn and oats, also gave him some condition powder, but he doesn't seem to gain. Three weeks ago he lost sight of one eye, but it is now clearing. He is shedding and his skin is harsh and unthrifty. A. E. F., Custer, Mich.—You had better examine his teeth and ascertain if they are in proper condition for him to masticate food. Give him a tablespoonful of the following tonic powder at a dose in feed three times a day: Powdered sulfate iron, gentian, ginger, nux vomica and powdered rosin, equal parts by weight.

Nasal Catarrh—Bunch on Navel.—My Jersey cow appears to be in fairly good health; has a good appetite, also gives a nice mess of milk, but has difficulty in breathing. She also has a discharge from both nostrils. I also have a colt three months old that has a small bunch at the navel. I noticed soon after birth that the navel did not heal as it should and there is yet a small opening just back of navel. C. J. S., Redford, Mich.—Give your cow 1 oz. powdered sulfate iron, and 1 oz. ground gentian at a dose in feed night and morning for 10 days, then give the medicine once a day. Put a tablespoonful of salt in a quart of tepid water and wash out nostrils twice a day. The bunch on colt's navel should be cut off and the wound stitched. Perhaps the operation should be delayed for six or eight weeks until fly season is over.

Septic Poison—Indigestion—Sick Dog.—I have a 3-year-old cow that was taken sick two or three weeks after she had her calf. Her appetite appears to be gone and she is quite hide-bound. She travels very stiff and acts as tho she suffered pain. I also have a horse that is unhealthy—had his teeth dressed four weeks ago—but he is gradually running down and not in a thrifty condition. I also have a Collie dog that has stomach trouble. G. H., Fairgrove, Mich.—Give your cow 1 oz. hyposulphite soda and 1 oz. ground gentian at a dose in feed twice a day. In addition to grass she should have some grain and it would be a good plan to keep her in a darkened stable day time and turning her out to pasture night. The cracking noise that your horse makes is perhaps on account of his teeth not being in proper condition. Better have his mouth looked at by a competent Vet. Give him 1/2 oz. ground gentian, 1/2 oz. powdered cinchona, 1/2 oz. ground ginger and 1/2 dr. ground nux vomica at a dose in feed night and morning. Give your dog a five grain soda mint tablet at a dose three times a day.

Grub in the Head.—My sheep are troubled with grub in the head and I should like very much to have you tell me what to do for them? H. N. F., Hart, Mich.—You will obtain fairly good results from the following treatment: Buy a small insufflator (blow gun) and blow some Scotch snuff well up into nostrils, this will produce violent sneezing which will very often cause the sheep to dislodge the grubs and after they are sneezed out be sure to kill them. If this fails, use a weak solution of salt, vinegar or tobacco, running it thru a syphon for injecting the nose. This method will quite often wash them out; however, if both remedies fail and the grub still remains in the synuses the only successful treatment is to trephine the bones of the face between the front of the eye and the median line of the face, or just in front of the horn, should that be present. The sinus should then be syringed out freely with a weak solution of tepid water with a little salt added. This is the line of treatment I use in my practice.

Thumps—Swine Plague.—What caused the death of my pigs? I suppose they had what is generally called thumps. The lungs were the most affected, but their bowels were also inflamed. Having a sow that had been brot to her milk by other sows' pigs sucking her up to near farrowing time, I placed her in a pen near a sow with eight pigs two weeks old. These pigs were in fine condition, they at once went to sucking the new-comer and soon began to grow fat. About this time some of the large pigs got access to the sow again and a day or two later we discovered the young pigs getting lame, and the eight pigs were ruined. They began coughing, limping, thumping and suffering; later on they all became affected, refused to suckle the sow and died one at a time. The other sow had pigs that were so weakly they all died. Now, what caused their death? A. A. C., Oquama, Ill.—First of all, your pigs showed some symptoms of swine plague, inflamed patches on lungs and bowels are symptoms which we often find when death results from swine plague. However, I am most inclined to believe that your pigs died the result of bacterial food infection. Or it is possible for them to all die from congestion of the lungs and bowels, at least the eight. Now the other pigs perhaps died for want of proper nourishment, the sow having been weakened from the alien pigs sucking her. Kindly understand, it is not always an easy matter to make a correct diagnosis in young infants or young animals, for many of them die the result of toxic poison and not from any well known disease.

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BERKSHIRES A few bred sows left yet, but no boars. Spring pigs of best families. Guernsey Cattle, Plymouth Rocks, Pekin Ducks and M. B. Turkeys. HUPP FARM, Birmingham, Mich., G. C. HUPP, Mgr.

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THE DAIRY

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REDUCING THE COST OF PRODUCING MILK.

With all kinds of grain foods selling around thirty dollars a ton the problem of reducing the cost of production is a very serious one. Our present system of dairy farming has been built up and developed upon a basis of cheap grain foods, and as long as the price of all grain foods remained extremely low, the dairymen could go out and buy all of their grain and feed it to inferior cows and make enough to keep business moving, and to maintain the fertility of a few acres of their farm sufficiently well to enable them to raise enough hay and corn fodder to supply the dairy herd with roughage during the winter.

The dairy farmers of today are facing entirely changed conditions, for every kind of grain food has reached a level in price that makes its liberal use actually prohibitive; so we are finding that we must conduct our dairying on more sound business and economic principles or sell our cows and follow some other line of farming.

The first great question is that of securing cows that are more capable of producing what the market demands at the lowest possible cost for food and attendants. The man who keeps cows should know how much it costs him to produce a pound of butter or a quart of milk at every season of the year. I do not think it is necessary to weigh and test each cow's milk every day but I do claim that it is necessary to know enough about what each cow is producing to tell with a fair degree of certainty which ones are returning profit.

No man can cheapen the cost of producing milk to the lowest possible notch, unless he understands what his individual cows are producing every month in the year. He cannot afford to ignore the Babcock test and the scales, for they are the little detectives that search out the robber cows.

Building Up the Herd.

In regard to building up a herd of dairy cattle, I am one of the men who are averse to going outside of the breed to build up the herd. A cross-bred dairy cow, like the dual purpose cow, is a big mistake. I would say, first of all, select some well bred individuals, either pure-bred or high grades, of a distinct dairy breed and then go out and search for the best bull that you can afford and set about the task of building up a herd of high producing cows.

Buying cows never built up a high-producing dairy herd and no man, even tho he may be a good judge of dairy form and function, can go out among other dairymen and buy their best producing cows, at a price where he can realize a margin of profit on them after he has them in his dairy. We must keep in mind the type of cow that we want and gradually breed toward that type as rapidly as possible. If we select the Jerseys as our ideal breed we must bear in mind the fact that they were bred and developed under ideal conditions, and plan to continue those conditions on our own farms. If we violate these conditions we are certain to suffer a loss for Jersey cattle were not built to stand rough treatment and endure exposure that some of the less refined breeds are capable of standing. The Jerseys, Guernseys and Holstein cattle were developed where they have not been compelled to climb mountains or travel long distances to secure what they needed to eat and every time we place them in dry or sunburnt pastures with scanty vegetation they fail to respond.

The Ayrshire cattle are better suited to such treatment, altho I do not mean to carry the impression that they will not respond to good care as rapidly as any other breed. They have been developed under a less favorable environment than the other breeds and for that reason will thrive better when placed under like conditions. For a rough farm where the pastures are poor I would by all means select Ayrshire cattle for dairying.

No matter which breed we select, we must use high class breeding bulls and mate them with the best producing cows if we succeed in the work of bringing about the desired improvement. I hope the time may come when every farmer will be compelled to use pure-bred breeding bulls. The loss that the dairy business is annually suffering from the use of

scrub bulls amounts to millions of dollars annually.

In buying a breeding bull study your cows and if they are large milkers buy a bull that will improve the quality of the milk and if they are light milkers buy a bull that will increase the quantity of the milk. The bull must have the blood, type and prepotency if he corrects these deficiencies and all these can be increased and helped along by giving him intelligent feed and care.

Grow More and Better Feeds.

We must cut off the feed bills if we realize the most money from our dairy business. The high price of all dairy feed stuffs is certain to result in lessening the milk production in certain sections where milk is produced under disadvantages. But as I have written in former articles in this paper, there should be funds outside of the dairy returns to pay for the food required to maintain the dairy herd. Many writers for the agricultural press explain how many dollars worth of fertility are brot on to the farm thru feeding dairy cattle purchased grain foods, but will some of these writers explain what all this signifies unless this fertility is saved and turned to some practical use in growing crops that will pay for its purchase?

The trouble is right with the dairymen who fail to measure up to the demands of the present time as soil handlers. By careful soil management a small amount of manure from a herd of dairy cows will go a long way in maintaining soil fertility. If we could combine the methods of soil handling practiced by the sugar beet growers of Germany with our dairy business we would not need to worry whether the price of grain feeds was high or low, so far as our purchase of them would be concerned, for we could grow enough on our own farms to feed our cows.

As a general proposition I do not believe that it will pay dairy farmers to undertake too many lines of farming, but one thing is very evident, the exclusive system of dairy farming which depends upon the west for our cattle foods can no longer be followed at a profit. We are paying too much for the protein and fertility that we get with the purchased grain. It is more clover, oats, peas, corn, barley, etc., that we need and less gluten feed, malt sprouts, oil meal and distillers' feed, if we maintain our cows at a profit and make the most from our farming.

We may get a little less milk but we will have more calves and better cows to show for it. I hope to see the day when all dairymen will realize that a pound of protein from one source is not always of equal value with a pound from another source. We have been feeding too much for milk alone and not enough for the good of the cows.

The cows should be fed so that they will not only return fair profits at the pail but also bring good healthy, well developed and vigorous calves. We are feeding not for present results alone but for the development of the calf that is to some day take the place of the cow in the dairy.

That the cow's food should be reasonably well balanced we are all willing to admit, but our most intelligent feeders agree that better all around results come from widening the rations and allowing more of the home-grown starch foods, thus encouraging the growth of clover and other proteinaceous forage crops. By doing this we may add to the stock carrying capacity of the farm and decrease the cost of milk production and promote the health of our cattle.

To prove that succulence and palatability form a large share of the value of our cattle foods we have only to point to pasture grass and corn ensilage or root crops. Governor Hoard, of Wisconsin, took eighty pounds of clippings from his lawn each day and fed them to a dairy cow which yielded him a pound and a half of butter per day. He then took eighty pounds of the same clippings, dried them into hay and fed them to the same cow, which immediately dropped to a pound of butter a day. Now, just what food elements have been lost the most learned chemist cannot explain. But the fact of the difference in feeding value proves that succulence and palatability is of great importance in all rations.

Well cured clover hay does not differ materially in the proportion of its constituents from pasture grass, but the cow soon tires of it if fed alone and will not eat enough for the best results, while ensilage and roots with their wider nutritive ratio are eaten in maximum quantities and with good relish, for long

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Butter at anywhere near such a price means that a De Laval Cream Separator **WILL PAY FOR ITSELF BEFORE THE END OF THE YEAR** in its savings over any gravity or setting system.

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It means that no one separating cream from the milk of even a single cow **CAN AFFORD** to continue to do so a day longer than can be helped without an Improved De Laval Cream Separator.

And buyers should remember that a De Laval Cream Separator—on which there is just one reasonable price for everybody—can be bought at a fair discount for cash down or on such liberal time that it **WILL PAY FOR ITSELF** out of its own savings.

That means that **NO ONE** need go a day longer without a De Laval Cream Separator than may be necessary to order and receive it, and that they **CANNOT AFFORD** to do so.

It emphasizes the urgent importance of seeing the local De Laval agent or communicating with the Company directly **AT ONCE**, with a material dollars-and-cents loss **EACH DAY** of delay in doing so.

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THE Economy Chief Cream Separator

Cream separator agents charge twice too much—they ask \$65.00 for the size that we sell for \$28.80—their machines are not as good as our Economy Chief—won't last as long nor skim as close.

JOS. C. GRABER, Pretty Prairie, Kans., R. 2, knows about this—ask him. He writes us saying: "Please quit sending me advertisements and testimonials of your Economy Chief Cream Separator, because it makes me feel bad to think of the mistake I made in buying a machine for \$65.00 when I could have bought a better machine (Economy) for \$28.80."

J. A. MONROE, Morrowville, Kans., R. 1, the well known breeder of Short Horns and Poland China, says: "Three cheers for the Economy and long life to Sears, Roebuck & Co." He says he thinks there are ten times as many Economy Chiefs in his neighborhood as all other makes put together.

A. E. HOOVER, Gaylord, Kans., R. 1, writes us a letter saying: "Anyone wanting a separator is foolish to pay \$60.00 to \$100.00 when they can get a great deal better one for 50 per cent less." He used a \$100.00 machine and afterward bought five Economy Chiefs, so he knows "what's what."

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It's good-by, Mr. Agent, when the Economy comes into the neighborhood—he has to quit. No farmer who has seen and used the new Economy Chief will pay agents' prices.

We sell on trial only. You get your money back any time in sixty days if you want to return the separator; but you won't want to.

Write us today and say: "Send me your Dairy Guide No. 429T." It tells you all about separators and shows up these big price, big profit fellows in great shape. It's free. Be sure to write for it whether you intend to buy a separator now or not.

Sears, Roebuck & Co., Chicago

periods. They produce good results at the pail and promote the health of the cows.

It is not my purpose to advise dairymen to discontinue feeding grain foods for I realize that some of our very best cows cannot be kept at a profit without a certain amount of grain food to balance the home-grown foods. My points are that we should make a studied effort to reduce the amount of grain food required to balance the rations of home-grown foods, to feed a wider ration of more palatable and succulent foods, to improve our pastures, to grow better forage and fodders, and to feed the kinds of food that will produce the best results and not injure the health and vitality of our cattle, and to make a more intelligent use of the fertility that is brot on to the farm by the purchase of grain and commercial by-product feeds.

New York. W. MILTON KELLY.

ARE LITTER CARRIERS PRACTICAL?

I am just completing the building of a cow-barn on my farm. The capacity of this barn will be about 25 cows. I have it so arranged that the cows will stand in two rows—one row, the longer of the two, stretching the length of the barn with room for 20 cows, the other row having places for but five or six cows is, for the main part, given up to box stalls and a small granary. The cows' heads are toward the center. Their backs to the two outside walls. Now, I have been considering the plan of putting in a manure carrier. I have been told by some that it was not very successful in many respects. I have been told that the more practical, easier and cheaper method was the old-fashioned way of taking the manure out on wheelbarrows. This I think would be entirely satisfactory in the case of my shorter row of cows; but is it the best way to plan for the removal of all the manure from the 20 cows in the longer row, too?

The chief objection to the carrier seems to be in the fact that the cable which it runs upon "gives" to such an extent that the car soon sinks to the floor and has to be pushed along the whole length of the cable to the pile. There seems to be no way of remedying this fault, to allow for the giving of the cable. Then, too, in the winter the cable is apt to become covered with snow or ice and hinders, if not prevents, the running of the car. Some men have suggested the using of a track similar to the one used for hay slings. But this would be even more apt to be rendered useless by snow or ice.

SUBSCRIBER.

Where cow stables are arranged so that the cows face the inside and the broad alley is between them for feeding, and the narrow alley back of the cow at the outside, I have never heard the practicability of a litter carrier questioned, especially in large dairies. When it comes to a question as to whether a man should use a wheel barrow to wheel out the manure, or a litter carrier, I didn't suppose there were any arguments in favor of the wheelbarrow. But, so far as being able to answer this question from actual experience, I am utterly unable to do so, because I never owned a litter carrier, and I have said many times in the Michigan Farmer, I do not believe in arranging a stable with the cows facing the center, but to have the cows face the outside and the broad alley between the rows so that you can pass thru behind the cows with a manure spreader and load directly from the stable into the manure spreader. This I believe to be the most economical way of handling the manure; but should I, for any reason, arrange a cow stable the other way, then I should by all means put in a litter carrier. I have seen these litter carriers in operation in a good many stables and I never yet heard anyone give any adverse criticism. I should think that if the wire on which the carrier runs sags too much after a time, then the slack could be taken out. Some device could be used so that one could readily tighten this. Really, I don't think this would be any serious objection. I think it could be overcome, and it is much easier to push a car loaded with manure along a wire cable, than it is to wheel a wheelbarrow up a slippery plank onto a truck or manure spreader. When it comes to loading a manure spreader in this manner, it is very unhandy from the fact that the beater is on the hind end of the spreader and one has to wheel up over that in order to dump it, or else wheel up over the edge of the box. With a common manure truck, one does not have to wheel so high.

Not until the dairyman gives attention to the little factors that influence the cost of his product and its quality will he secure the largest net profit from his herd. But with this instinct for details he must also have a comprehensive idea of the business or he works to no purpose.

The Thing That Interests Dairymen Today

is not which Company has made the most failures in its attempts to make successful Cream Separators, or which Company has abandoned or discarded the most inventions because (by its own admissions) of the inferiority of those inventions.

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And which will continue to be the best Separator in 1910?

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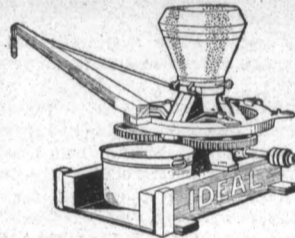
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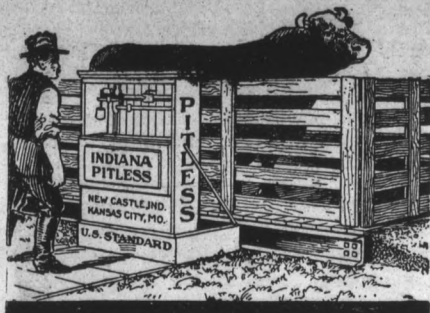
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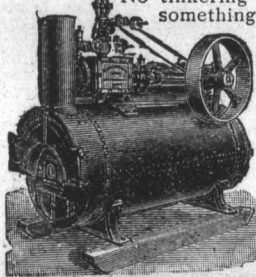
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POULTRY AND BEES

PREPARING POULTRY FOR MARKET.

In the poultry industry, as in every other, attractive marketing is an important feature, and one that is very often overlooked. Many of the products marketed by the farmer do not realize the highest prices because they are not placed on the market in an attractive form or because some requirement of the consumer has not been complied with.

In preparing poultry for market it should be remembered that plucked fowls are more salable than unplucked. The fowls should be fasted for 24 hours previous to killing, to empty the crop and intestines. If this is not done the fermentation of food in the crop and intestines will spoil the carcass. A small quantity of water should be given just previous to killing.

Kill by wringing the neck, and not by sticking. One of the easiest ways of killing is by dislocating the neck. This is done by grasping the legs of fowl in the left hand and the head in the right hand, the back being upward and the crown of the head being in the hollow of the hand. Hold the legs of the fowl against the left hip and the head against the right thigh. In this position strongly stretch the head, at the same time bending it suddenly backward so as to dislocate the neck near its junction with the head. The fowl is killed instantly and plucking the feathers should begin at once.

Another method that gives good satisfaction is to hang the bird up by the legs, the wings being crossed to prevent struggling, then rap the fowl on the back of the head with a piece of wood, which will render it insensible. The knife is then inserted into the roof of the mouth so as to pierce the brain, cutting it along the entire length. Allow the fowl to hang for a few minutes, to allow the blood to drain out, then pluck while still warm. Feathers should be left on neck for about three inches from the head; also leave a few on tail and tips of wings.

Care should be taken not to tear the skin while plucking, and I do not dip fowl in water. Twist the wings on the back of fowl and tie with string to keep in place. The intestines should be removed from the rear, after which the fowl should be hung up by the feet to cool. Do not neglect to clean the feet and legs thoroly for the fowls will look much better.

While there is a diversity of opinion on the subject of drawing poultry before

drawing has been properly done this objection to its immediate performance may be entirely set aside.

If fowls are handled as above outlined, and the utmost cleanliness is maintained thruout the operation, they can be placed on the market with the assurance that they will command the highest price. Livingston Co. C. C. O.

SOMETHING ABOUT HONEY-DEW HONEY.

In this season's reports on the honey outlook from many sections of the country there have been numerous references to the unusual amount of honey dew being gathered by the bees, and this condition leads a correspondent to inquire as to the nature of honey-dew honey. Honey dew is a form of nectar or sweetened spray or varnish which, in favorable seasons, appears quite generally on the leaves of trees and shrubbery. It was formerly believed to descend from the heavens and was therefore called dew. It is now generally conceded, however, that this substance is secreted by plant lice and scale insects. Some scientists have held that it is secreted by the trees themselves but the facts that it is sometimes secreted in excessive quantities and that its presence offers a means for fungi gaining a foothold upon the tree, are not sufficient to disprove this theory. From extensive investigations Prof. Cook concludes that the insects, in beginning their attack upon a tree or shrub, manufacture this secretion with a view to attracting the bees, since the presence of the honey gatherers affords the insects protection from birds, and many things noted in his observations make this explanation seem a plausible one.

So much for the source of honey dew. In seasons especially favoring the rapid multiplication of plant lice and scale insects, or in sections where these insects have gradually acquired a firm foothold upon nectar-producing trees and plants, there will be an abundance of honey dew available to the bees and, unless the supply of nectar from other sources is very abundant, the season's production is apt to show a considerable proportion of honey-dew honey. While it is claimed that honey dew is not necessarily unwholesome, and certainly not when first secreted, the fact remains that in time the secretion is attacked by a fungus or smut which renders it undesirable as a honey-producing nectar. When used in small quantities, and in its fresh state, in the making of clover or basswood honey it is not objectionable, but honey made almost wholly from honey dew during the latter half of the season is almost invariably dark and strong in flavor. It is considered fit only for the needs of bakers or others desiring an inferior or strong-flavored product. It is not even a good food on which to winter bees since it causes dysentery and consequent depletion of the colony. Where colonies have stored large quantities of this product late in the season apiarists advise extracting it and giving in its place for winter stores sufficient quantities of granulated-sugar syrup. The present season has seemed to favor the production and gathering of honey dew to an unusual degree, altho reports indicate that Michigan apiarists are faring better in this respect than those of Ohio, Indiana, Illinois and other nearby states. Nevertheless there is some of it in Michigan and we venture the opinion that a careful examination this fall as to the character of the stores laid up for winter may be the means of preventing heavy winter losses among the bees.

Eggs Must be in the Shell.—According to a decision handed down by the pure food experts of the Department of Agriculture eggs must be used in their original form and any effort to adulterate them or offer them for sale in any other shape than as furnished by the hen, will meet with opposition. Recently in Illinois the government seized a consignment of liquid eggs, and the United States attorney has laid a libel on desiccated or evaporated eggs found in a bakery in Washington. According to the petition of the attorney an analysis of the "dried" eggs disclosed that they were in a "filthy, decomposed and putrid condition, and unfit for human consumption."

FREE DEAFNESS CURE.

A remarkable offer by one of the leading ear specialists in this country, who will send two months' medicine free to prove his ability to cure Deafness, Head Noises and Catarrh. Address Dr. G. M. Brannan, 102 East 12th St., Kansas City, Mo.



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The man who owns a Moline Wagon does not know what loose tires are so far as experiencing the inconvenience and annoyance. Moline Wheels are saturated with boiling linseed oil before they are ironed. This closes up all pores of the wood, and shuts out moisture, and when moisture is shut out you don't have loose tires. The oak hubs are mortised after being perfectly seasoned. The machine mortises insure the most perfect uniformity, and

Every Spoke Fits

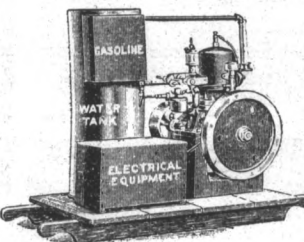
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A Prize-winning Black Langshan Cock at State Fair of 1908.

marketing, it will be found that drawn fowls will keep much longer than those not drawn. The presence of undigested food in animals which have been killed favors tainting of the flesh and general decomposition. The viscera are the first parts to show putrescence and, allowing them to remain within the body cannot do otherwise than favor infection of the flesh with bacteria.

Hunters know the value of drawing birds as soon as killed in order to keep them sweet and prevent their having a strong flavor. While it is true that the opening of the body of an animal and exposing the internal surfaces to the air may have some influence in hastening putrefaction, yet when the process of

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 The Lawrence Pub. Co.,
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DETROIT, SEPT. 11, 1909.

CURRENT COMMENT.

By the time this issue reaches the reader the State Fair of 1909 will have passed into history, and history will record it as the most successful event of the kind ever held in Michigan. The time that has elapsed since the fair was located at Detroit has been sufficient for the improvements made in the grounds to show at their best. The trees and shrubs which were planted in that improvement have reached a period of growth and development which adds not a little to the artistic beauty of the grounds, while the well drained and closely clipped lawn which spreads out over the expanse of the grounds completes the picture. Aside from this, the large area of concrete walk which has been laid adds greatly to the comfort of fair patrons, and the roadways were everywhere treated to prevent the dust which has been so objectionable in previous years.

Aside from these features of this year's fair, for which the management is to be complimented, the show itself is more fittingly representative of our great state and its varied industries than any state fair which has preceded it. The machinery and implement exhibit, which was so placed as to be the first to attract the patron's attention upon entering the grounds, was larger by far than any similar exhibit ever seen gathered in one place in Michigan. This was partly due to the increased exhibits in the classes which have been represented at our fairs for many years, and partly to the great increase in the number of labor-saving devices which have been developed for the use of the farmer in recent years. Truly, when one looks over the perfected machinery of today at an exhibition like this and compares it with the comparatively crude articles which were manufactured and exhibited for like purposes a few years ago, the change is marvelous. But as one looks with admiration upon the newer devices, many of which furnish the power as well as do the work required upon the farm, and others which will afford the farmer in the most isolated location all of the home comforts which would be possible for him in an urban center, one feels that the same progress will be apparent in the development of farm equipment in the next few years which has marked the experience of even

the younger generation of present day farmers.

The live stock exhibits, as noted in another column, were also attractive to lovers of good stock, and the looking over of this high class exhibit by thousands of farmers from all parts of the state cannot help but prove an inspiration to many hundreds of them which will be apparent in the improvement of the live stock in as many communities in the state, which result, in itself, will make the state fair a most profitable institution to the commonwealth.

The exhibits in the department devoted to general farm products were very creditable, the more so when the lateness of the season is considered. As usual, the county exhibits were an attractive feature in this building, and some of these will be touched on in detail in future issues.

In the horticultural building was seen one of the best exhibits of the entire fair, as might be expected in a state so justly noted for her fruit products as is Michigan. The building was most tastily decorated with southern smilax woven in green colored lattice work spanning the many arches of the building, giving a delightfully cool and refreshing air to the room well in keeping with a high-class fruit exhibit.

The poultry department was, as usual, one of the most attractive to the crowd from the city as well as country. A brief description could not be made to do it justice, hence we will not attempt it in this issue.

The educational exhibits proper were a feature of themselves, surpassing those which have been attempted at previous fairs. More of these features will be brought to the attention of our readers in future numbers.

The exhibits in the main building were also of a high class and most tastily arranged. During the days of large attendance it was almost impossible to get thru the aisles, so intent were the visiting thousands upon seeing the whole of this very good show.

The midway section of this fair was so arranged as to be practically a separate department, thus affording greater convenience to those who sought its diversions, and being less of an inconvenience to those who preferred to spend their time taking in the fair proper.

The racing events were both good and numerous, with large entries, which adds not a little to the excitement and enjoyment which accompany light harness contests. The air ship races were a novelty never before seen by Michigan fair patrons, and were a highly appreciated feature, especially by the younger portion of the crowd.

The free entertainment features were perhaps fewer in number than at some previous fairs, but were all of a high order, and the shortening of the program was appreciated, rather than otherwise, by the patrons who desired to see the evening entertainment.

One feature of the evening show which was a great innovation in Michigan fairs is worthy of special emphasis, as it was the subject of favorable comment by a very large percentage of the patrons—the horse show, for the first time attempted at a Michigan fair. Here the choicest specimens of equine excellence housed in the great horse barn were put thru their best "stunts" in a ring specially constructed for the purpose before the grand stand. Heavy truck teams, general purpose horses, roadsters, hackneys, saddlers, ponies and trick horses were here put thru their paces to the delight of an admiring audience. It was the famous horse show of the International reproduced on a smaller, but very creditable scale, and the cheers of the audience which thronged the grand stand and bleachers each night showed general appreciation, especially when the ladies were driving in their class. This feature of the fair was so popular with the patrons, that its continuance in future years would seem assured.

The fireworks with which the evening entertainment was closed each night, while less ambitious in scenic effect than those which have been seen at some previous fairs, were very attractive and from all appearances were equally acceptable to the audience, and in themselves were fully up to the standard which has been set in previous years.

But perhaps the most satisfactory feature of the fair which has just closed, at least to the management, was the attendance. The large preliminary sale of tickets was an indication of a big attendance, but the crowds which thronged the grounds on Labor Day were all that could have been desired by the most am-

bitious officer. Official figures are not at hand, but it is safe to say that the crowd was as large, if not larger, than any ever before entertained at a State Fair. With another big day on as we go to press, and with the sun still serenely shining and a temperature that is ideal for the enjoyment of such a show, a successful finish of the week seems assured. Not only the management of the fair, but the people of the state as well, are to be congratulated upon the success of this event. It is the people's fair, and they have made it a success by their liberal patronage. They should do the same for the West Michigan State Fair to be held at Grand Rapids next week. Two such big, successful agricultural events in the same state in succeeding weeks is the best possible advertising for the agricultural industry of Michigan, and it is advertising that pays the patron even better than it does the state at large. Keep up the good work.

As is the case with Consolidation of most impending problems of a serious nature Schools. there is great difference

of opinion as to the proper method of solving the rural school problem. But that there is such a problem very few thinking people will deny at the present time. We have seen some severe criticisms of the general amendments to the school law passed by the last legislature, but have reserved editorial judgment in the matter until the law has been tried under working conditions. One of these objections was the placing of the matter of the consolidation of rural school districts in the hands of the township boards of the several townships, the opinion being voiced that the tendency would be toward centralization against the actual sentiment of a majority of the electors in any school district. A case to the point came under our observation recently in which a majority of the taxpayers in a certain small school district in one of the thickly populated counties of lower Michigan petitioned to have the district consolidated with the most central school of the township. The school inspectors had voted to vacate the district before the new law went into effect, but the opposition which developed afterward was so strong that the township board ordered a special election in the school district to be held for the purpose of voting on the proposition before they would take action in the matter.

The result of this election confirmed the action of the inspectors and showed that the petition represented the sentiment of the district. Now the dissatisfied residents of the district in question have instituted a movement toward the consolidation of this small district with another in which the conditions are practically identical. The only apparent reason for such a move is their prejudice against consolidation, since the school population in both districts is not sufficient to maintain a good school, and the expense of moving the school building from either location to a new one or of building new would soon be followed with a similar necessity on the part of the new district. On the other hand, the school with which both could be consolidated most conveniently could accommodate the pupils from both with very little if any additional expense, and the children of both these districts be given the advantage of better schooling than would be possible under any other plan. That much of the opposition against the consolidation of small schools is of this nature seems apparent. That some of it will be removed by the gradual consolidation of district schools thru the efforts of progressive residents of these small districts also seems evident, and gives promise that the rural school problem, like most serious problems which confront us will solve itself in a gradual and natural way thru the good sense of our sensible class of home-owning farmers.

The state is not ready for general consolidation of schools, but there are cases like the one cited where it would be an undoubted advantage to all concerned, both from the standpoint of the efficiency of the schools and the amount of voted tax necessary for their maintenance. Yet it would be found very difficult for the enthusiasts in any community where such a plan is not acceptable to the people to force it on them, as has been feared by some who do not approve of the new law which makes this course possible. Public sentiment will not be denied, and may be accepted as a fairly safe guide in the solution of the rural school problem. It may take longer to solve it in this way than it would by radical legislation, but the solution will prove a more satisfactory and permanent

one. Such gradual and conservative consolidation as is above referred to will surely do no harm in cases where it may be brot about, and the object lesson afforded will go far toward the demonstration of the practicability and efficiency of the plan in the communities where it is thus tried out.

HAPPENINGS OF THE WEEK.

Foreign.

North Pole Discovered.—News reached the civilized world during the past week of the successful dash made by Dr. Frederick A. Cook over the Arctic ice to the North Pole. The discovery was made April 21, 1908. Having learned from the experiences of former explorers that the ice floes around the coveted point had a general direction east, Dr. Cook took a more westerly course than his predecessors, and with his carefully prepared equipment, and Esquimaux guides, he pushed his way over the new course until on the above named date the spot was reached, and an American flag was planted where his instruments indicated was the position of the long-looked-for north pole. For over three centuries men have attempted to find a path to the northernmost point of the earth and not until now has a human foot trod the northern wilderness so far as any record is known. A great demonstration was given Dr. Cook on his arrival at Copenhagen, Denmark, where the explorer landed from a Danish vessel. It is expected that he will sail for this country as soon as possible, where preparation are already being made by the Arctic Club, of New York, and by the Hudson-Fulton Exposition, for a special "Cook Day" in honor of the man who has won for America this honor. Dr. Cook is a citizen of Brooklyn, N. Y., and has relatives living in Jackson county, Michigan.

The conditions in Mexico, where the recent storm swept over the coast is most critical since hundreds of human bodies as well as those of animals, are buried beneath the waste and wreckage in the track of the storm. Homeless families are everywhere over the territory and much suffering must follow unless speedy relief is given.

Fifteen men, formerly high officials of Persia, have been exiled from Persia for life. The former shah is now a refugee in a Russian legation at Zerdende.

By prohibiting women with hatpins protruding from the rim of their hats from entering trains and places of public entertainment, the police of Paris, France, have declared war against the wearing of long hatpins such as present styles demand.

Japanese hotel proprietors have organized for the purpose of protecting foreigners from being extorted by unscrupulous hotel keepers.

The mobilization of Chinese forces in Manchuria and other northern provinces of China has given Russia concern, and now the latter government is busy strengthening her fortresses along the border. A duplication of the trans-Siberian railroad is also being built to strengthen the Russian position.

Czar Nicholas, of Russia, will visit Moscow this week, which is the first time in six years that the ruler has set foot in the ancient capital of the great Empire.

The rush of American visitors from European points is now overtaking the compelled to stay longer than was in transportation companies and many are tended, being unable to secure accommodations.

Bubonic plague and yellow fever are raging at Guayaquil, Ecuador.
 Count Zeppelin has invited the German reichstag to inspect his airship and take a trip with him.

Altho the strike in Sweden is being prolonged the country is not suffering to any extreme degree from the fact that the laboring people were mostly prepared for the cutting off of wages.

Experience with patients in Russia where the cholera is raging and has been for some time, makes it appear certain that the vaccine recently discovered for the controlling of that epidemic, is a success.

The English and American public is again being aroused because the rearrangement of responsibility in Congo State in Africa has brot about no change in the methods of dealing with the natives, and the abuses that once moved civilized countries to investigate the conditions there are still disgracing the dark continent.

Seven thousand Japanese marched in the parade at the exposition at Seattle last Saturday.

Italy has accepted the new tariff rates of the Payne-Aldrich law, altho exports of that country are discriminated against.

Anticipating the completion of the Panama canal in five years the United States naval department is preparing to make a new survey and map of the coast of Central America.

The four protecting powers have demanded of Crete that she take oath not to raise the Greek flag again upon the island. To this the authorities of the island have consented. Portions of the island have been so rebellious, however, that the compliance with the promise has not been possible.

Turkey has been authorized not to push her claims upon Crete too rapidly as the protecting powers would look upon such action as repugnant to them in the light of present relations between the countries concerned.

Almost simultaneously with the announcement of the discovery of the north pole by Dr. Cook came the news that Robert E. Peary, who for a number of years had attempted to reach it, had also succeeded in locating the point about a year after the Brooklyn explorer. On seven different occasions Perry penetrated the far north in search of the northern limits of the earth and on two of these occasions he succeeded in going

farther north than any previous explorer had gone. A detailed report of his trip has not reached civilization at this writing but it is understood that no evidence of Dr. Cook's previous visit was discovered by Perry, which can be readily understood from the fact that the ice at the pole is moving and consequently evidence would move along with it and would carry it out of the course of those who followed later.

A hurricane, accompanied by prolonged rain storms, swept the Gulf coast from Matamoros to Torreon, Mexico, destroying much property by winds and inundating hundreds of square miles of territory. It is estimated that 1,500 persons were drowned and that fully 20,000 are left homeless as the result of the disturbance. Rivers and streams are all beyond their borders and communication by rail and wire is generally out of commission.

The London looks upon the situation in Greece where troops from the barracks mutinied the past week, with apprehension, reports of events the past few days indicate that the crisis is past, the authorities having satisfied the revolutionists by meeting the demands as regards the organization of the army, the intrenchment in government expenditures and other issues called to the attention of the government by the rebels. The cabinet has promised to heed the public drafting its policy. As regards foreign relations the same policy will be continued that has prevailed.

Particularly from the American standpoint, the aviation meet at Rheims, France, was a decided success. There was but one entrance from this side, Glenn H. Curtiss, who succeeded in winning the international cup, took first in the 18-mile race by doing the course in 25 minutes 49 seconds, with penalties counted, and was given second in the lap event. In all, the air navigator brings home besides the cup, 38,000 francs in prize money.

Because of expected personal violence from the hands of agents of the present administration a large number of supporters of Col. Reyes for vice-president of Mexico have fled across the line into the United States. Troops were recently sent into the districts along the American border to remove the supporters of Reyes and place men affiliated with the Diaz faction.

National.

Clyde Fitch the American playwright, died recently in France, from an operation for appendicitis.

The use of explosives commended by the mining department of Pennsylvania, are not approved by the officers of the mine workers' national organization, and the recent explosions in the Pittsburg district are held by those officials to be for the purpose of discrediting the national organization, in spite of the fact that the miners are endangering their lives by the use of the more dangerous materials.

A monument was unveiled Saturday in memory of the Pottawattomie Indians, at Twin Lakes, 27 miles south of Laporte, Indiana.

Bids have been opened by the naval department for the construction of two new battleships.

A threatened strike upon the part of 20,000 cotton workers in New Bedford, Mass., is promised, should the operators fail to comply with the demands of the employed for the restoring of the ten per cent cut in wages made during the dull season of 1908.

A shipment of 2,500 specimens have been sent from Africa by the Smithsonian institute as the result of the Rooseveltian hunt. The specimens consist of birds, mammals, snakes and plants.

Glenn Curtis, who made such a sensational hit in his maneuvers with the aeroplane at Rheims, France, a week ago, will make flights at the speedway in Indianapolis during October. He will bring with him a student of the French aviator, Bleiot, who will also fly in the monoplane.

The United States supply ship Rainbow, of the Pacific squadron, was picked up in the China Sea 200 miles out from Hong Kong with her machinery disabled and in a helpless condition.

The political fight in Panama is growing more interesting each week, and the government is being hard pushed to save itself from the attacks of the constitutionalists.

The state of Oklahoma has made an appeal to President Taft thru Gov. Haskell, asking that something be done to protect the state against the infringement on the prohibition measure in force in that commonwealth. The three points raised in the communication is that the mails are being used for liquor advertising, the abuse of interstate commerce protection, and the illegality practiced in the taking out of federal liquor licenses.

The government is realizing much profit from the institution of the new methods in collecting customs at ports, especially at New York.

Mayor Stoy, of Atlantic City, has been placed under arrest by the attorney general of New Jersey upon his failing to see that the saloons were closed in that city on Sunday.

The New York supreme court has rendered a decision giving the stock exchanges of that state the right to control its members as regards their dealings with consolidated operators.

Mrs. W. B. Fleming, the woman astronomer of Harvard University, discovered the largest meteor yet found and took a photograph of the same. Only two others have been photographed.

Much excitement has been caused thru-out the country and especially in the west thru the discovery of good veins east of Salida, Col. It is predicted from the nature of the find that a second Cripple Creek has been located. Large tracts are already staked out and hundreds of seekers are on the grounds.

The fight between the pressed steel companies and the laborers in the Pittsburg district continues, and because the

employers are endeavoring to bring in strike breakers from other places the fight has been extended to Chicago, New York and other large cities.

American naval officers are much chagrined and angered at the imposition of the crew of an Italian cruiser which deliberately steamed their boat thru the lines of the practice fleet off the coast of Cape Henry last week.

CROP AND MARKET NOTES.

Gratiot Co., Sept. 3.—A general frost came to Gratiot on the night of September 1. Corn seems not to have been greatly damaged but beans were cut hard. A large percentage of them were well out of the way but some of the late sown are a heavy loss. The county is in such need of rain that it is all but impossible to plow or work wheat ground. Some have abandoned their ground and are waiting for rain.

Osceola Co., Aug. 30, 1909.—Threshing is now the order of the day. Oats turning out better than was expected, from 20 to 40 bu. per acre. Wheat and rye not yielding as well. Very little wheat grown in this part of the county. It stays pretty dry. Light, scattering showers at different times help out a little but a good general rain is needed badly. Pastures very short, being supplemented with hay and fodder corn; the milk supply is steadily decreasing. Some report a good stand of clover in new seeding but others a failure. Corn promises to be a good crop in this locality if the frost holds off. Excellent corn weather has prevailed in this locality the last month, but in other parts of the county it has been too dry, making cutting necessary to save the corn fodder. Potato tops are looking fine but it is a question if the "bottoms" will be there, as there has been about enough moisture to keep the tops growing, but a little too dry for the development of the tubers. No blight has been reported yet. A light frost occurred the morning of Aug. 21, which damaged crops a little on very low ground. Apples in this vicinity are a light crop and dropping badly. Dutchess selling at 40c per bu. Hogs are scarce, bringing 9c per lb. dressed; cattle are a little lower than a month ago.

Kent Co., Aug. 26.—The drouth has remained unbroken until today. Corn is still growing on the low lands; on the high, heavy lands it stands nearly or quite dormant; on the high, light lands it is fit to cut. The rain we are getting today will undoubtedly make a fair crop of potatoes and will help much of the corn and buckwheat.

Shiawassee Co., Aug. 24.—Cool nights, accompanied with hot days. The oat crop about harvested. Bean harvest is under way and a few fields about ready to haul. The bean crop this season promises a good yield. The vines are well developed and the pods good length and well filled. Grain threshing well under way. Oats are not as good a crop as last year. Wheat is yielding from 18 to 35 buhels per acre. Rye is yielding well altho not quite up to last year. Barley is a fair crop. Corn is making good growth and promises a bafner crop. Sugar beets are doing well tho a good rain would aid rapid growth. A large number of farmers are plowing for wheat. The apple crop promises a good yield. Road construction is well along and many miles of road have been well graded. Live stock of all kinds in a healthy condition. A few cars of feeding lambs have been brot into this locality for feeding. No cattle have as yet arrived. The large portion of the hog crop is going to market. Good horses are still changing hands at a good figure.

LOCAL FAIR ANNOUNCEMENTS.

Northeastern Industrial Fair will be held at Flint, Sept. 21-24, inclusive, and from the interest taken by exhibitors promises to be the best fair in the 60 years of its history. The list of free attractions is better than ever before, and preparations are being made for illuminating the grounds for an interesting program each evening. Purses aggregating \$2,700 offered by the speed department will bring many good horses to the fast track of the association.

Eaton County Fair. The 55th annual fair of the Eaton County Agricultural Society will be held at Charlotte, Sept. 21-24, and promises to be one of the best fairs ever held by that organization. Prospects are bright for large and varied exhibits in all departments, and the racing program is fast filling with good entries. Among the new features is an encampment of native Michigan Indians on the grounds.

"Great Guns."

Probably all our readers are familiar with the high reputation of the J. Stevens Arms & Tool Co., Chicopee Falls, Mass., and the line of guns and rifles which has made the name of "Stevens" famous. Mr. John Browning, an inventor of international prominence, has designed what is now on the market as the Stevens Hammerless Repeating Shotgun, No. 520. This new gun is equally well adapted to trap or field work, and is still further appreciated because of its very moderate cost. The barrel is of Stevens compressed forged steel, and is as strong as it is possible to make a shotgun barrel. It is 12 guage and chambered to take a 2 1/4-inch shell. The finish is in black oxide, which gives a beautiful and lasting appearance. One of the most valuable features of this gun is that none of the interior parts protrude or interfere with the free and safe handling of it, while its simplicity makes it possible to take it down or put it together more quickly than any repeating gun on the market. The slide handle, locking block, firing pin and safety device have each been the object of special study, with the result that for general use the Stevens Repeating Shotgun No. 520 stands as the latest and the best contribution to the needs of the gunner.

Standing Rock and Cheyenne River Indian Reservations

The opening of the Standing Rock and Cheyenne River Indian Reservations in South Dakota and North Dakota will give about ten thousand people 160 acres of fertile farming lands for a small sum per acre. The government has appraised these lands at 50c to \$6 per acre.

If you intend to engage in farming or are now farming and wish to change your location, why not register for one of these farms? It costs nothing to register, and you may be successful in the drawing for these lands.

Registration October 4 to 23 at Aberdeen, Mobridge or Lemmon, South Dakota, on the

Chicago, Milwaukee & St. Paul and Chicago, Milwaukee & Puget Sound Railways

Drawing at Aberdeen, October 26th

Low round-trip fares to points of registration October 5 and 19. Tickets good 25 days and good for stop-over. Low round-trip fares also on these dates to points west of the reservations in the Dakotas and Montana.

Stop-overs allowed on these tickets will give you an excellent opportunity to see the country along the new line to the Pacific Coast, and to stop off to register.

Complete information regarding cost of tickets and train service, and descriptive folder free on request.

F. A. MILLER
General Passenger Agent
Chicago

GEORGE B. HAYNES
Immigration Agent
750 Marquette Bldg., Chicago

Stop off here

On Your Trip Southwest

If you are going Southwest on the excursion Sept. 21st it will pay you to stop off at Stuttgart, Ark. and

See Them Harvest the Big 1909 Rice Crop



You will be just in time, and you might as well go that way as not—it won't cost you any more, and you will see a sight that will look mighty good to a farmer's eyes.

You will see men who never grew rice before in their lives, making crops that will pay them \$60 to \$70 per acre clear profit.

Perhaps you've been on the wrong road growing wheat, corn and oats. It will be worth your while to stop off at Stuttgart and see. Tell the agent who sells you a ticket that you want to go by the Cotton Belt Route through Stuttgart.



Write at once for a copy of our book "Arkansas Rice." You will find it mighty interesting and profitable reading.

E. W. LABEAUME, G. P. & T. A.
1959 Pierce Building, Saint Louis

HARVESTING RICE IN ARKANSAS



Please mention the Michigan Farmer when you are writing to advertisers and you will do us a favor.

HORTICULTURE

MACHINERY IMPROVES FRUIT HUSBANDRY.

"He that causes two blades of grass to grow where one grew before is a benefactor of the race," is an old saying, and when we find such a one, we believe it is well to call the attention of others to it in hopes that they may "go and do likewise."

Michigan is noted as a fruit state and at the Centennial Exposition in 1876 at Philadelphia, Van Buren county took the first prize. Soon after the insect pest became a problem in fruit growing, making it necessary to spray, and it has been very noticeable that they who pruned, cultivated and sprayed have had good returns, but the majority of fruit growers and farmers have been slow in adopting new methods or in adding to their many duties on the farm. The national and state horticultural societies and the state agricultural college have issued bulletins and urged spraying. The farmers institute and successful fruit growers have given spraying formulas and recommended and urged spraying. Comparatively little has been done up to this year except by a few farmers. A drive thru the country will show that the apple orchards have been cut down fully one-half from ten years ago, and many peach orchards are in bad shape, largely from want of care and spraying. We emphasize spraying because we are going to tell you how one man has done more for the orchards in this section than all the bulletins and farmers' institutes combined.

A merchant, located here at Bloomingdale, who has a branch store at South Haven and another at Gobles, has sold within the last year sixty spraying outfits for \$5,950, an average price of nearly \$100. The highest price received for any was \$235; the lowest price, \$60. Now, from this, we contend that this man's salesmanship has induced the farmers and fruit growers to buy these comparatively high-priced outfits, and when the farmers put on an average \$100 into a machine, they will make use of it much more than they would if they only had a small amount invested, so in this instance, salesmanship has done for the orchards much more than bulletins or arguments and speeches at farmers' institutes. True it is that the merchants desire was to keep his men profitably employed and to make a profit for himself, and his desire has been fulfilled. But above that, he has placed in the farmer's hands a spraying outfit which either represents to them so much idle capital or an instrument that will certainly improve the fruit and make fruit growing a success, for sure it is that he who sprays well will prune well and cultivate well, and so cause two (good) apples or peaches to grow where one (poor) grew before.

Van Buren Co. DAVIS HAVEN.

RAISING TOMATOES FOR MARKET.

Perhaps but few realize the magnitude of the tomato raising industry, or the enormous amounts of that fruit that is consumed in this country annually. From a despised and rejected plant that sprung up occasionally, and was looked upon as poison, and unfit for food, fifty years ago, it has increased in popularity until at the present time there are several times more tomatoes consumed, raw, cooked and canned, than any other one kind of fruit that is grown in this country.

The tomato plant thrives and produces fruit over a great range of territory. The season when fresh tomatoes are available in our northern cities is a long one, as the shipments from the south begin to arrive early in the spring, and there is a continuous supply until our home crop is cut off by the frosts in the fall. The greatest profit on the home grown crop is realized on the early varieties that mature the crop in time to come in market before the general crop is ready.

Selecting the Seed.

One of the first essentials in successful tomato growing is the selection of the seed. It is the safest and best plan to select the seed from stock grown in the neighborhood where the crop is to be planted. By selecting seed from the best specimens on the plants that produce the most and best fruit, the characteristic of prolificacy, or heavy production

can be maintained. It is safer for growers to save their own seed as varieties quickly run out if care is not exercised in sowing only the seed from the choicest specimens.

Preparing the Ground.

Plans should be laid for the crop the fall before it is to be planted. If practicable, manure heavily in the fall, or if not, scatter on a good coat of manure during the winter, and plow early in the spring. Work the ground as often as once a week or ten days until time to set the plants. Much benefit can be obtained by a liberal application of commercial fertilizer. If there is not manure enough to insure a rapid and steady growth, nitrate of soda can be applied at time of setting the plants, and as the tomato requires a large amount of potash an application of a well balanced fertilizer can be spread on the surface near the plants three weeks later, and worked in with the cultivator and hoe.

Starting the Plants.

The seed should be sown in a hothouse as early as March 15, in this latitude. As soon as the plants are up three inches high transplanting should begin, and they should be reset at least three times before time to set in the field. By subjecting the plants to air and a good deal of sunlight, they will become hardier and start a more vigorous growth than if kept inside.

Setting the Plants.

At the Joslin farm, near Northville, where tomatoes are grown on a large



Scene illustrates the apparatus required for gathering and barreling the apple crop where the amount of fruit is too small to require a packing house.

scale for the early market, the plants are set in rows six feet apart and four feet in the row. By this plan about 2,000 plants cover an acre. There is no crowding of plants in the rows, and there is a space between the rows for the pickers to stand while gathering the crop. Most tomato growers set the plants in rows four feet apart and the plants three feet apart in the rows. By that method it requires about 3,600 plants for an acre. If there are any blossoms on the plants at time of setting they should be picked off to save diminishing the vigor of the plants.

As soon as the plants are set the cultivating should begin and be repeated at least once a week until the vines are so large that they interfere with the horse and cultivator. The plants should be hand-hoed often, and all weeds kept away from them, so as to give the crop all the moisture that there is in the soil.

Picking and Marketing.

As soon as the tomatoes begin to turn, picking should begin. Put the fruit in baskets, set them in the shed or barn, or in some shady, cool place, and cover with a canvas. In from 24 to 36 hours they will be turned nearly red, when they can be sorted, polished by rubbing with a cloth, and started for market. It is the smooth, large and handsome ones that sell for the high prices.

The early ones bring the best prices. at the Joslin farm picking began this year about the 15th of July. The first tomatoes marketed sold for \$3.50 per bushel.

The yields of tomatoes vary greatly under different conditions and management. Under ordinary field culture, 250 to 300 bushels to the acre is about what can be expected. On very rich soil, and under skillful management, 800 bushels per acre is a possibility.

If one wishes to prolong the season for

the fruit for home use, and marketing on a small scale, about the time a heavy frost is expected pick the large green fruit and place it in a dry place. By exposing it to the sun during the day it will ripen. The vines then, with the small immature fruit, can be pulled and hung in a shed or other dry place. The fruit is frequently able to draw sufficient nourishment from the vines to ripen and make fairly good fruit for table use.

Wayne Co.

N. A. CLAPP.

GETTING MULCH FOR STRAWBERRIES.

We are about ready to cut marsh grass for mulching our strawberry beds. We are so situated that we can cut this grass about one and one-half miles from home with a mowing machine and rake up with a horse rake, and when the marsh is dry haul a full load of hay upon it. Two years ago we were able to put this hay in the stack beside the berries for about \$1.50 per load, which is cheaper than straw can be secured on most seasons. A load of marsh hay will go about a half farther than a load of straw in mulching. It is cleaner also, and for this reason we like to use it on the new beds, and if there is not enough for all, put straw on the old ones. The straw handles and spreads better, is looser, and is not as likely to be blown by the wind, so there are advantages on both sides.

But I am rambling. We will stack this mulch beside the berry plants and

PRUNING BERRY CANES.

A correspondent inquires as to the height that berry canes should be pruned, stating that his had developed to the height of four or five feet. Blackberries, black raspberries and red raspberries were concerned. We imply that summer pinching has not been practiced or the writer would not be confronted with the tall spragly canes which he describes. When the new canes have reached the height of from 18 inches to two feet they should be pinched back, with perhaps the exception of the red raspberry where the operation has a tendency to cause many shoots to come up from the ground. The other varieties send out side branches when the terminal buds are destroyed and the plants become stocky and branched. The old canes may be removed any time after the fruit is harvested. Many advise doing this on the earliest date thereafter, since less opportunity for the growth of fungous diseases and the harboring of insects in the dying wood is afforded. Others would keep the old canes in the patch for holding snow on the ground during the winter. Each advantage may be meritorious and give force to the time for performing the work. Circumstances in the particular case should be allowed to influence the time for the operation. A spud with hook and chisel knives attached to the end is serviceable in getting the old canes out.

BLADDER TROUBLES NEED PROMPT ATTENTION.

Perhaps you don't know how much work is required of your kidneys and bladder or of how much importance they are. Do you know that on these important organs hinges good health? Many an apparently strong, healthy man or woman has been stricken without notice by serious kidney and bladder disease only to realize too late what might have been prevented with proper care and attention.

Some of the early symptoms of weak kidneys and bladder are lumbago, rheumatism, catarrh of the bladder, pain or dull ache in the back, joints or muscles, at times have headache or indigestion, dizziness, you may have a sal-low complexion, puffy or dark circles under the eyes, sometimes feel as tho you had heart trouble, may have plenty of ambition but no strength, get weak and waste away.

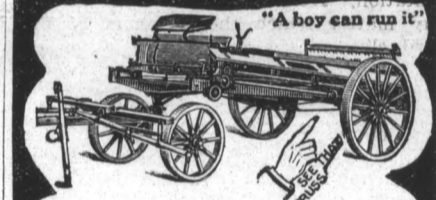
If you find you have some of the symptoms mentioned, you need then a remedy that will reach the seat of the disease and at the same time build up the system generally.

Such a remedy is Swamp-Root, the great kidney, liver and bladder remedy. In thousands of cases it has accomplished just the work you need performed now.

Sample Bottle of Swamp-Root Free by Mail.

Send to Dr. Kilmer & Co., Binghamton, N. Y., for a sample bottle. It will convince anyone. You will also receive a booklet of valuable information, telling all about the kidneys and bladder. When writing, be sure and mention the Detroit Michigan Farmer. For sale at all drug stores. Price fifty cents and one dollar.

APPLETON MANURE SPREADERS QUALITY



"A boy can run it"
THE APPLETON Manure Spreader is as strong as steel and oak can make it. It is so simple that any boy who can drive a team can run it as well as any man and control its every operation from the seat. It is easy to load, easy for the horse to start, does not bunch the manure—but spreads it evenly and uniformly from the beginning to the end of the load, and as thickly or as thinly as needed—and is practically automatic in all its operations. Our Free Spreader Booklet tells you how and why. Send for it now.

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(Established 1872)

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Location of Little River Drainage District



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The Little River Valley Land Co.
207 Himmelberger-Harrison Bldg., Cape Girardeau, Mo.

FARMERS' CLUBS

Address all correspondence relative to the organization of new Clubs to Mrs. W. L. Cheney, Mason, Mich.

Associational Motto.

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

Associational Sentiment.—

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

EXECUTIVE COMMITTEE MEETING.

There will be a special meeting of the executive committee of the State Association of Farmers' Clubs, Thursday, Sept. 16, at 1:30 p. m. at the Hotel Wentworth, in Lansing. The purpose of the meeting is to make the program for our annual meeting and to transact such other business as may come before the committee.—Mrs. W. L. Cheney, Sec. S. A. F. C.

PREPARATION FOR THE ANNUAL MEETING.

The above notice of a meeting of the Executive committee of the State Association of Farmers' Clubs is really an announcement of the initial work for the coming annual meeting of the State Association in December. The executive committee, in years gone by, have fully demonstrated their ability to provide an instructive and entertaining program for the annual meeting and they will not fail in that respect this year. But while these preparations are going forward on the part of the executive committee, the local clubs throughout the state should not be neglectful of their part in the making of a successful annual meeting.

There are many things which may be profitably discussed by the local clubs by way of preparation for that meeting. There is always much business to transact in a short space of time at these meetings, and it is very essential that the local clubs having matters of any kind to present for the consideration of the delegates have the subject matter well in hand so as to economize time in its presentation. Hence, the wisdom of having any matter which the members of the local club may desire to have presented for the consideration of the associational meeting so formulated that this may be done at the proper time in the deliberations of that meeting and so plainly that little discussion will be required to get the idea before the delegates in a manner to be easily grasped by them.

Each one of the sixteen annual meetings which have been held by this organization has been more successful than any that have preceded it and the interest of the greater majority of the farmers' clubs in the state has been both active and loyal, yet there are some clubs that have not become closely identified with the State Association. These clubs in particular should devote some time to the consideration of this coming meeting. There is no question but that it would be to the advantage of every club in the state to be closely identified with this state-wide organization. The slight expense incident to membership in the association and the sending of one or more delegates to Lansing will be many times repaid in the fresh inspiration that the clubs will gain from their participation in, and subsequent report of the meeting. Every club in the state should be represented at this year's Associational Meeting and it is none too early for the members to be thinking about it and making the necessary preparation.

CLUB DISCUSSIONS.

Will Hold Club Rally.—The Salem Farmers' Club held its July meeting at the pleasant home of Rev. and Mrs. J. H. Bettes. On account of the haying season being at its height fewer than usual assembled, but a very enjoyable day was passed, and the program was well rendered. A good talk was then given the club by Rev. J. Calahan. The president appointed as the executive committee, Mr. and Mrs. Herbert Smith and Mrs. Myrtle Wheeler. The club takes a vacation during August. The next meeting will be a rally held at the home of Mr. and Mrs. Frank Soultis, Sept. 15. A good time is looked for.—H. C. Thompson, Reporter.

Discuss Local Market.—The 20th Century Farmers' Club, of Jackson county, met in August with Mr. and Mrs. Pickle. Owing to the busy time but few were present. A communication was received from the Chamber of Commerce asking the assembled farmers their opinion as to

the feasibility of a public market in the city of Jackson, to be discussed at the September session. W. D. Ford gave an account of a trip to Montana. Said the trip thru Wisconsin was as picturesque as could be found anywhere. Much of Minnesota and Dakota is very rough, but about the Rocky Mountains the scenery was more beautiful than the Niagara Falls, the overhanging rocks being fearful to behold and seemingly you went forward in jeopardy of your life. Irrigated land without improvements is worth \$40 per acre in that section.

The Question Box brot out many ideas. The law relative to cutting weeds and brush upon the highway and adjacent land was discussed, but not generally understood, at least by those present, and we had no lawyer to enlighten us. Questions regarding clover, corn, wheat, tariff and grapes in chickens were all found in the box. After their discussion the club adjourned to meet in picnic at Crispell Lake, Sept. 1st.—Jennie M. Ford, Reporter.

Discuss State Affairs.—The August meeting of the Maple River Club was held at the pleasant home of Mr. and Mrs. John F. Bilhimer. The day was typical of mid-summer weather and despite the uncomfortable heat a large number of members of the club and visiting friends from the city partook of the warm hospitality, a prominent feature of the Bilhimer home. "Ideal conditions in our State government: Can they be improved?" was assigned to F. M. Whelan. On account of sickness he was unable to be present and the topic was opened for discussion by A. B. Cook. Mr. Cook expressed himself as feeling there were many things that could be improved upon in our state affairs. However, the primary election law has wrought wonderful changes and tended to shift the power of legislation from the hands of a few to that of the public. Mr. Cook believes that the local option movement now on foot is going to have a potent influence toward more wholesome legislation.

Character.—Miss Mary Hardy read an excellent paper on the subject of character, in which she emphasized the importance of cultivating the elements of honesty, unselfishness and industry. There is great need in the world for more people who live not alone for themselves but for the good and happiness of others.

The Farm Home.—"The farm home in New England. Its historic and reminiscent memories," was ably presented in an interesting paper, read by Mrs. Josephine Gould. The essayist had given much time and thought to tracing out historical memories of early farm life in old New England and proved very entertaining.

"Suffragettes."—Mrs. A. B. Cook spoke on the question, "What influence will the Carrie Nation type of person have on prohibition?" and that that while Mrs. Nation was an extremist in her views, she had accomplished a wonderful work. Mrs. Cook believes that there are times when radical measures must be brot into action to rid the people of unnecessary evil. A. L. Chandler was not very favorably impressed with Mrs. Nation and that she was carrying her part altogether too far for the dignity of her sex. The laws are made to govern the people and why not provoke their execution.

Lincoln.—Rev. Laughton gave an entertaining talk on "An Englishman's view of Abraham Lincoln," in which he paid our martyr statesman glowing tributes. He is among the greatest, if not the greatest, statesman the world has ever produced. The fact that Lincoln rose from humble birth to the presidency of the greatest Republic in the world is sufficient evidence of his diplomatic ability.

Agricultural Education for the Boy.—The August meeting of the Conway and Handy Union Farmers' Club was held at the pleasant home of Mr. and Mrs. C. Leedle. There was a large gathering and the afternoon being cloudy, chairs were taken to the lawn and the whole meeting, including the supper, was held out of doors, making it seem more like a picnic than a club meeting. President Franks called the meeting to order and it was opened by the usual exercises. The question, "Of what benefit to the farm boy is an agricultural course?" was discussed by George Stow. He considered it invaluable in a social, financial and political way. He would enjoy life better and receive beneficial instruction on such subjects as stock judging, soils, seeds, drainage and farm machinery. G. L. Adams that it paid in general benefits if there was never a dollar in money made from it. F. Grant would consider it a great benefit if the boys would come back to the farm and use the knowledge gained, but that the tendency was to educate away from the farm rather than for it. Ira Snyder, J. B. Fuller, J. B. Rambo, Warren Holmes and O. E. Carr also joined in the discussion.

Home versus School Training.—Mrs. S. Holmes read a carefully prepared paper on the question, "Which is more important, a girl's training at home or at school?" She thought the two very closely connected. That it well for the girl if she could be in a good home all thru her school days. In these days education is a necessity. Mrs. F. Curtis spoke rather in favor of home training, but reminded us that home training was not all work. Mrs. G. L. Adams spoke of the benefits of the school for the poorer class in the cities, where the home training is often a detriment. The question was farther discussed by Rev. W. G. Stephens, Mrs. Stow, Mrs. Horton, and others.

Practical Helps to Success.—"The most practical method of helping a young man to success" was assigned to F. Curtis. He said, help them if possible to good health and a practical education and teach them the object of life. The next meeting of the Club will be held at the home of Mr. and Mrs. Henry Croop, the last Friday in September.

GRANGE

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

THE SEPTEMBER PROGRAMS.

Suggestions for Second Meeting.—Pomona Day Program.

(Prepared by Miss Nellie A. Mayo, Pomona of State Grange. The hall should be decorated with autumn leaves and fruit, while Pomona's station should be made particularly attractive for the occasion.)

Music by the Grange, selected by Pomona.

Roll call, each one giving helpful suggestion in regard to fruit culture or preserving of fruit; the ladies on canning, etc.

"Spraying fruit, the best method for all fruits."

"The best way to make a strawberry bed."

"Growing small fruit for market."

"Up-to-date methods of marketing fruit."

"Fruit growing for women."

"The growing of currants; why do not farmers grow more of them?"

"Fruit for the general farmer."

"Fruit and its place on the menu for the farmer's table."

"Fruit as a means of health and beauty."

"Improved methods in canning and pickling."

"Apples as a money crop in Michigan."

"How best to sell and market the apple crop."

INCREASING POPULARITY OF GRANGE FAIRS.

There is a great opportunity for subordinate Granges to do a good work by creating an interest in Grange fairs, which are becoming more popular each year—not fairs gotten up by many days of planning and of hard work, but fairs gotten up for a day or an evening in a very simple manner.

There have been both benefit and pleasure derived from studying the exhibits which were brot in and arranged as the members came to the regular meeting. A part of a day spent in placing the exhibits of members living nearest the hall would of course make it possible to have them arranged more artistically, and the woman's work committees would be just the ones to have it in charge. Let each member label his exhibits with his name and the names of the variety of the fruits, flowers, grains and vegetables which he exhibits.

Do not try to give prizes to the older members, as it would take much time and trouble to judge the exhibits and award so many prizes, and much valuable discussion among the members concerning the different varieties of fruits



Cyrus G. Luce (Luce Co.) Pomona Grange, organized July 25, at McMillan.

and vegetables and the best methods of growing them would be lost, for no one would know to whom the different exhibits belonged if the names were left off so that they might be judged. But interest in the Grange can be increased by offering first and second prizes to the children for a few things which they have grown the past season. Let them have a special table for their exhibits, and do all that you can to make it interesting for them, and you will be doing something toward helping to keep the boys and girls on the farm. Exhibits of fancy work and of old relics have been made very interesting in many Granges where they had room to display them properly.

TWO NEW U. P. POMONAS.

The campaign for the organization of the farmers of the Upper peninsula which has been carried on by Deputy John F. Wilde for the past eight months culminated in a series of meetings held in four counties for the purpose of organizing Pomona Granges. The four Granges of the county were all represented and after a picnic dinner were

addressed by Deputy Wilde and J. W. Hutchins, secretary of State Grange. The meeting resulted in the organization of Cyrus G. Luce Pomona Grange, with the following temporary officers: Master, Geo. Shady; overseer, Sam Bryan; lecturer, Mrs. Geo. Parker; steward, Geo. Smathers; chaplain, Mrs. Geo. Shady; secretary, L. W. Holbrook; treasurer, E. M. White; ass't steward, Bruce Shady; lady ass't steward, Olive Shufelt; gatekeeper, W. H. Locke; Pomona, Mrs. S. E. Bryan; Ceres, Maggie Burke; Flora, Mrs. J. Smathers. The first regular meeting will be held in connection with the county convention for the election of representatives to State Grange, at the town hall, West Lakefield, Oct. 5, when permanent officers will be chosen.

In Delta county the efforts of Deputy Wilde have resulted in the organization of nineteen Granges having upward of eight hundred members. The interest was shown by the crowds from the country who were in attendance at the meeting called at Escanaba, Aug. 27, and the hearty welcome given by the city to their rural guests. Everywhere in store windows and on the front of buildings the Grange colors of pink and green were in evidence. A committee of the citizens of the city co-operated with the officers of the Grange in making arrangements for the day. A building was provided for the display of country products side by side with the merchant and manufacturer. Considering the short time since this feature was decided upon the exhibit was in every way creditable to all concerned. This fair, as well as a ride upon the street cars, and nearly everything else of entertainment character in the city was free to members of the Order wearing the Grange badge. A silver cup was offered to the Grange having the largest number of members enrolled at the city hall. This was won by Flat Rock Grange with 102 members registered. A fine silk U. S. flag given to the Grange having the largest number of members in the procession which marched to the park on the lake shore at 10 a. m., was carried off by Clover Blossom Grange, of Hyde. The procession of Patrons several hundred strong, was escorted by two bands of music and followed by the officers of the county and city in automobiles and carriages. The exercises at the park were presided over by L. C. Jennings of the city committee. A hearty welcome was given the visitors by Mayor Greenhoot, who closed his remarks by turning over the key of the city to Secretary Hutchins who responded for the Grange. J. V. Moran, president of the Business Men's Association, spoke upon the business relations of the country and city and the importance to both of mutual good will and co-operation.

The principal address of the day was given by Hon. David S. Rose, mayor of Milwaukee, who had been secured by the city committee for this occasion. Mayor Rose reviewed the history of the Great Northwest, its remarkable growth in agriculture and manufactures, said some very pleasant things about his own city of Milwaukee and praised the enterprise of Escanaba. He commended the farmers for their efforts at organization as correct in principle and necessary for their business and social welfare. He urged them to keep the Grange out of party politics and true to the interests of the farmer. Large and enthusiastic Grange sessions were held in the opera house both afternoon and evening. Hope Pomona Grange,

AMONG THE LIVE GRANGES.

Successful Rally Season.—The season for summer rallies is nearly closed and all reports indicate good meetings, some of the best being held in the northern counties. In Antrim county there were over 2,000 in attendance at the rally, and in Charlevoix county the enthusiasm runs high, where a delegation of 500 or more is promised for the State Grange meeting at Traverse City. Reports from other parts of the state also indicate that there is considerable interest in the work.

Gratiot Pomona met with Elm Hall Grange, Aug. 7. The excursion which had been talked of was postponed a year. Decided that next meeting shall be an anniversary meeting which will be held with Liberty Grange. Excellent programs, in the afternoon and evening, comprising good talks by Bro. Ketcham, of Barry Co., and State Overseer Van Deventer, were rendered.

MARKETS

DETROIT WHOLESALE MARKETS.

September 8, 1909.
Grain and Seeds.

Wheat.—Farmers of the northwest appear to have the dealers guessing in that the looked-for heavy receipts are not yet coming and the market has failed to decline as the buyers have expected and desired. The week brot no news of significance and prices remained thruout the last four sessions of the board very constant. Considering the heavy world's exports, the cable news was strong and gave the bulls encouragement. In fact, the past week served to thin out the bear side of the deal somewhat and gain numbers to the side of the bulls, but of course, should the farmers determine to sell and come to the market with large quantities of the cereal, declines cannot help coming. Rain in the northwest has been a hindrance to threshing but the detriment is not large. This week the government crop report will be out and then dealers will have a better judgment of the situation and more progressive dealing will be expected. Argentine news is bullish. The amount of trading is small. One year ago the price paid for No. 2 red wheat was 97½¢. Quotations for the week are:

	No. 2	No. 1	Dec.	May.
Thursday	1.07½	1.06½	1.07	1.09
Friday	1.07½	1.06½	1.08	1.09½
Saturday	1.07½	1.06½	1.07½	1.09½
Monday	1.07½	1.06½	1.07½	1.09½
Tuesday	1.07½	1.06½	1.07½	1.09½

Corn.—The uncertainties prevailing as to the extent of damage done the corn crop from drought and low temperatures in the north, has served to give the market considerable strength. Prices the past week found a firmer basis, but the more favorable weather conditions that followed the cold nights moderated the attack of the bulls on the trade and gave the bears a little breathing spell again. It must be said, however, that the deal occupies a strong position and the fact that corn all over the northern part of the corn region is late and much of it is yet in condition to be greatly damaged by frost, gives buyers encouragement to pick up offerings at every indication of an unfavorable turn of conditions. The crop report of Missouri for the past month is marked down 22 points, which caused the bears concern. One year ago the price for No. 3 corn was 82½¢. Quotations for the week are:

	No. 3	No. 3
	Yellow.	White.
Thursday	72	74
Friday	72½	74½
Saturday	72½	74½
Monday	72½	74½
Tuesday	71½	73½

Oats.—Prices for oats ruled about a cent higher the past week for cash goods. Every session of the past week has been marked by active dealing and buyers are anxious to get hands on all that is offered. The market is firm at the advance. One year ago the price paid for No. 3 white oats was 52½¢ per bu. Quotations for the week are:

	Standard.
Thursday	39½
Friday	39½
Saturday	39½
Monday	39½
Tuesday	39½

Beans.—Many of the fields of beans in the central and northern part of the state were affected by the recent frosts, and the market has strengthened upon the knowledge of this adversity to the crop. The quotations given here are only nominal, there being no business transacted even at the advance made during the week. These nominal prices are:

	Cash.	Oct.
Thursday	2.02	2.20
Friday	2.02	2.20
Saturday	2.02	2.20
Monday	2.02	2.20
Tuesday	2.05	2.20

Cloverseed.—This market occupies a stronger position than a week ago and prices are better for the farmer. The trading is confined to sample lots. Alsike is steady at last week's price. Quotations for the week are:

	Prime Spot.	Oct.	Alsike.
Thursday	7.25	7.60	7.75
Friday	7.25	7.60	7.75
Saturday	7.25	7.60	7.75
Monday	7.25	7.60	7.75
Tuesday	7.25	7.60	7.75

Rye.—This trade is steady with a fair demand. Cash No. 1 is selling at 69¢ per bu., which is an advance of ½¢ over last week's price.

Visible Supply of Grain.

	This week.	Last week.
Wheat	9,167,000	8,362,000
Corn	1,868,000	1,774,000
Oats	7,382,000	5,184,000
Rye	239,000	202,000
Barley	707,000	217,000

Flour, Feed, Provisions, Etc.
Flour.—Market active, with prices unchanged. Quotations are as follows:
Clear \$5.25
Straight 5.40
Patent Michigan 5.85
Ordinary Patent 5.50

Hay and Straw.—Market for both hay and straw is unchanged. Carlot prices on track are: No. 1 timothy, new \$13@14; No. 2 timothy, \$12@13; clover, mixed, \$11@12; rye straw, \$7; wheat and oat straw, \$6 per ton.

Feed.—Market steady at unchanged prices. Bran, \$25 per ton; coarse middlings, \$26; fine middlings, \$30; cracked corn, \$30; coarse corn meal, \$30; corn and oat chop, \$28 per ton.

Potatoes.—Tubers are more difficult to get than a fortnight ago, and the wholesale prices are up about 10¢ per bu. Michigan goods are quoted at 70@75¢ per bu.

Provisions.—Family pork, \$21.50@22.50; mess pork, \$21.50; light short clear, \$21.50;

heavy short clear, \$22; pure lard, 13¢; bacon, 15½@16½¢; shoulders, 10¢; smoked hams, 14¢; picnic hams, 11¢.

Dairy and Poultry Products.

Butter.—The short pastures prevailing in a number of the dairy districts are cutting the supply of butter short and prices are ruling higher again this week, an advance at Elgin and other points being reflected in the trade at this point. Quotations are: Extra creamery 30¢ per lb.; do., firsts, 29¢; dairy 21¢; packing stock 20¢.

Eggs.—The decline of a week ago did not stand long and the scarcity of eggs firmed the trade and caused an advance of a cent for the week. The present quotation is 22½¢ per dozen for fresh eggs, case count, cases included.

Poultry.—A slight improvement in prices for chickens took place this week and the market is firmer and a little more active at the new figures. Demand is good for the season. Quotations are: Hens, 14@14½¢; roosters, 9@10¢; ducks, 10@15¢; geese, 8@9¢; turkeys, 16@17¢; broilers, 16@17¢.

Cheese.—Steady. Michigan full cream, 15@16¢; York state, 16½¢; limburger, 16½¢; schweitzer, 20¢; brick cream, 16½¢ per lb.

Calves.—Choice to fancy, 11¢; ordinary, 9@10¢ per lb.

Fruits and Vegetables.

Cabbage.—Steady. Home-grown, \$1 per bbl.

Tomatoes.—Firmer and now selling at 50¢ per bu.

Onions.—Domestic offerings, \$2 per bbl; Spanish, \$1.50 per crate.

Pears.—Bartlett's, \$1.25@1.50 per bu; common, 75@80¢.

Grapes.—Delaware, 25¢; Niagara, 20¢; Concord, 20¢ per pony basket.

Apples.—Home growth, \$2@3 per bbl.

Peaches.—Michigan grown range in prices from \$2@3, according to grade.

Huckleberries.—Higher, \$3.75@4 per bushel.

Vegetables.—Beets, 75¢ per bu; carrots, 75¢ per bu; cauliflower, \$1.25 per doz; cucumbers, 15@20¢ per doz; eggplant, \$1.25@1.50 per doz; green beans, 75¢ per bu; green onions, 12½¢ per doz; green peppers, 75¢ per bu; lettuce, 50¢ per bu; mint, 25¢ per doz; parsley, 25@30¢ per doz; radishes, 8@10¢ per doz; spinach, 60¢ per hamper; summer squash, 30¢ per box; watercress, 25@50¢ per doz; wax beans, \$1 per bu.

OTHER MARKETS.

Grand Rapids.

In dairy products, both dairy and creamery butter are up 1¢ this week. The egg market is unchanged. Grain prices are steady, with exception of beans, which are lower, buyers now quoting on a \$1.75 basis for machine screened. No special changes are noted in fruit. Both peaches and apples have a wide range, depending on quality. Apple buyers are active now and the growers in the best apple districts are holding for \$3 per barrel for winter fruit. In a few cases they are getting the price. Home-grown muskmelons are bringing 60¢ per bu. Grapes are just beginning to arrive, selling on Tuesday's market at \$1.50 per doz. baskets. In meats, spring chickens are off 1¢. Dressed hogs are bringing 10@10½¢.

Quotations follow:

Grains.—Wheat, \$1.01; oats, 39¢; corn, 73¢; buckwheat, 55¢ per bu; rye, 60¢.

Beans.—Machine screened, \$1.75.

Butter.—Buying prices, Dairy, No. 1, 23@24¢; creamery in tubs, 29½¢; prints, 28½@30¢ per lb.

Eggs.—Case count, 21@22¢.

Potatoes.—60¢ per bu.

Peaches.—\$1.25@2 per bu.

Apples.—50¢@1; pears, 75¢@1.25; plums, 90¢@1.50 per bu.

Vegetables.—Tomatoes, 45@50¢ per bu; sweet corn, 8@10¢ doz; cabbage, 25@30¢ dozen.

Cattle.—Cows, \$2.50@4 per cwt; steers and heifers, best quality, 3@5½¢; dressed mutton, 9@10¢; dressed veal, 6@9¢; dressed beef, cows, 5@6½¢; steers and heifers, 7½@9½¢.

Hogs.—Dressed, 10@10½¢.

Live Poultry.—Fowls, 10@12¢; roosters, 7@8¢; turkeys, 14@15¢; spring chickens, 13@14¢; spring ducks, 11@12¢.

Chicago.

Wheat.—No. 2 red, \$1.03@1.05½; December, 94½¢; May, 97½¢.

Corn.—No. 2, 68@68½¢; December, 57½¢; May, 59¢.

Oats.—No. 3 white, 36½@38½¢; December, 37½¢; May, 40½¢.

Butter.—Steady and practically unchanged. Creameries, 24½@29¢; dairies, 22@26¢.

Eggs.—Steady, with prime firsts, case count, cases included, 21½¢ per doz.

New York.

Butter.—Firm and higher. Western factory firsts, 21@22½¢; creamery specials, 30½@31¢.

Eggs.—Firm. Western firsts to extras, 25@26½¢; seconds, 20@22¢.

Poultry.—Dressed. Western chickens, 14@20¢; fowls, 17@18¢ per lb; turkeys, 12½@18¢. Live.—Firm. Turkeys, 15¢; fowls, 16½@17½¢.

Grain.—Wheat, No. 2 red, \$1.04 per bu; corn, No. 2, 78½¢ for old; oats, mixed, 40½¢ for new.

Elgin.

Butter.—Market firm at 30¢ per lb., which is an advance of 1¢ over last week's price.

Boston.

Wool.—Manufacturers are still anxious for news that will aid them in getting raw material for woolen goods at a lower price, but most of them have given up the hope and are anxiously securing their supplies at the present range anticipating that in the coming months the fleeces will cost more than at present, and besides, the trade in manufactured goods is active with promise of a continued strong demand. The following are the leading domestic quotations: Ohio, and Pennsylvania fleeces—XX, 35@36¢; X, 33@34¢. No. 1 washed, 40@41¢; No. 2

washed, 40@41¢; fine unwashed, 27@28¢; half blood combing, 35@36¢; three-eighths blood combing, 35@36¢; quarter blood combing, 34@35¢; delaine washed, 39@40¢; delaine unwashed, 40@41¢. Michigan, Wisconsin and New York fleeces—Fine unwashed, 25@26¢; delaine unwashed, 31@32¢; half blood unwashed, 34@35¢; three-eighths blood unwashed, 34@35¢; quarter blood, 33@34¢. Kentucky, Indiana and Missouri—Three-eighths blood, 34¢; quarter blood, 32@33¢.

THE LIVE STOCK MARKETS.

Buffalo.

September 6, 1909.
(Special report by Dunning & Stevens, New York Central Stock Yards, East Buffalo, N. Y.)

Receipts of sale stock here today as follows: Cattle, 140 cars; hogs, 9,600; sheep and lambs, 12,000; calves, 1,200.

The run of cattle today consisted mostly of the common grades. The good cattle would have sold higher but they were very scarce. Other grades sold strong to 10¢ higher than last week. Fresh cows and springers sold from \$2@3 per head higher.

We quote: Best export steers, \$6.75@6.90; best 1,200 to 1,300 lb. shipping steers, \$6@6.25; best 1,100 to 1,200 lb. do., \$5.50@5.75; medium 1,050 to 1,150 lb. steers, \$5@5.25; light butcher steers, \$4.50@4.75; best fat cows, \$4.25@4.75; fair to good cows, \$3.50@4; light cows, \$3@3.25; trimmers, \$2@2.25; best fat heifers, \$5@5.25; fair to good, \$4.25@4.50; common, \$3.50@3.75; best feeding steers, 800 to 900 lb. dehorned, \$4.25@4.50; 700 to 750 lb. dehorned stockers, \$3.75@4; 600 to 650 lb. do., \$3.40@3.60; little common stockers, \$3.25@3.50; best bulls, \$4@4.50; bologna bulls, \$3.25@3.50; stock bulls, \$2.75@3; best fresh cows and springers, \$5@6; fair to good do., \$3.50@4; common, \$2@2.75.

The hog market opened steady at Saturday's prices and closed about steady with a good clearance. There is a good demand for good choice corn hogs but the grassy hogs are draggy and slow sale. We would advise caution in buying this kind.

We quote: Medium and heavy corn-fed, \$8.60@8.70; mixed, \$8.50@8.60; best corn yorkers, \$8.45@8.55; Michigan yorkers, \$8.30@8.40; pigs, \$8@8.05; roughs, \$7.25@7.35; stags, \$5.75@6.50.

The lamb market today was fairly active and we think the prospects a shade better the balance of the week.

We quote: Best lambs, \$7.75@7.85; fair to good, \$6.50@7.65; culls, \$5.25@5.75; skin culls, \$4@4.50; yearlings, \$5.25@5.75; wethers, \$4.75@5.25; ewes, \$4.50@4.75; cull sheep, \$2@3; best calves, \$9.50@10; fair to good, \$7@9; heavy, \$4@5.

Chicago.

September 6, 1909.

Cattle. Hogs. Sheep.
Received today 28,000 28,000 20,000
Same day last year, 23,135 21,304 21,941
Received last week, 52,479 88,248 105,626
Same week last year, 69,784 92,728 131,345

Cattle sold to better advantage last week owing to the smaller offerings, weakness in the commoner kinds being checked, while the choicer beeves went 10@20¢ higher. The week was noteworthy in sales of fancy steers at new high records, buyers paying \$8@8.05, whereas heretofore the top was \$7.85. Yearlings sold at the top, with prime heavy steers bringing \$8, and the bulk of the steers found buyers at \$7.75@7.50. Inferior light weight steers sold at \$4@5, and good steers sold at \$7 and over, export cattle weighing from 1,250 to 1,400 lbs. bringing \$6.35@6.75. Eastern shippers were fair buyers, but not much was done on export account. Butcher stock rallied and advanced 10@15¢ by the middle of the week under light offerings and a good demand, cows and heifers finding purchasers at \$3.30@6.50, but only limited numbers sold at \$5.30 and upward. Canners and cutters were unchanged, selling at \$2@3.25. Bulls sold at \$2.50@4.85, and calves were active and firm at \$3@9.25 per 100 lbs. Western range cattle were marketed rather freely and had a good sale at \$4.45@6.50 for steers and \$3.15@5.40 for cows and heifers, the better class selling higher. There has been a better outlet for stockers and feeders, sales ranging at \$2.75@5.25, but not much trading was done above \$5. Few feeders went below \$4, and the offerings consisted largely of stockers of fair to medium grading, choice feeders being scarce. Prospects are considered good for choice corn-fed cattle, the packers being disposed to bid prices up, as usual at this season, in order to encourage farmers to refill feed lots.

Today's cattle market was active so far as good lots were concerned, sales at \$8, the top, embracing some yearlings and a consignment of seven cars of fancy heavy Shorthorns and Angus steers. The receipts embraced about 11,000 western rangiers, being far the largest of any day this season, and they were largely 10¢ lower, best excepted. Ordinary natives were weak to a dime lower.

Hogs were marketed last week in such moderate numbers that sellers were able to obtain good prices, especially for the choicer droves. Eastern buyers secured most of the best lots, and their operations made good competition for the better class. A feature of the market was the almost complete collapse of the recent prices for hogs, as a result of sudden rigor shown by government officials in condemning a large share of the offerings as unfit for food. Butchers refused to take chances of having their purchases condemned, and insisted upon a decline of about 50 per cent from recent prices before buying. Many salesmen, rather than accept such offers, had hogs slaughtered in the name of the owner, and in such instances no price was placed on the animals until after inspection, and then their value was placed at a cent a pound if condemned and at about former prices if suitable for human food. One packing firm had 101 hogs, or fully 60

per cent of the day's purchases, condemned in a single day, and other packers and small butchers had similar experience. Tuesday's sales of hogs were made at \$5@6 per 100 lbs., while the following day sales were at \$2@3, and in some instances hogs weighing 300 lbs. and upward had no quotable value. Receipts of hogs averaged 235 lbs. in weight. Today's market was active at strong prices, with sales at \$7.60@8.40, or close to the highest of the year.

Sheep and lambs came to market last week in good aggregate numbers, with offerings consisting mainly of lambs, the ranges contributing the main share. Sheep and yearlings sold well on the whole, with a ready outlet, but lambs suffered a decline of 25@50¢ in prices, the shipping demand being not particularly good. There was no abatement in the demand for feeders, however, and they brot full former prices, while prime range yearling breeding ewes sold up to \$6.50 per 100 lbs. Today's market was fairly animated, with lambs selling at \$4.50@7.60, wethers at \$4.50@5.25, ewes at \$2.50@4.65, rams at \$2@3.50, and yearlings at \$5@5.50. Breeding ewes were sold at \$4.15@6.50, the best yearlings from the ranges ruling higher. Feeders paid \$5, \$6@6.75 for lambs, \$4@4.60 for wethers and \$4.75@5.35 for yearling wethers.

Horses have been coming to market in increasing numbers recently, and there is a much better general demand, summer dullness being a thing of the past. Better prices prevail, and a general advance has taken place during the last fortnight. Drafters are having a good demand, plain to good offerings selling at \$170@220 per head, while a choicer class of stall-fed drafters sell at \$225@300, with express horses active at \$160@225. Waggon horses are taken freely at \$140@175, and there is a brisk movement in southern chunks, which sell at \$60@125. Light drivers are more active at \$150@325, and feeders are having ready sales at \$170@225, a few going as high as \$250. F.

LIVE STOCK NOTES.

The best authorities on the hog market are agreed that general conditions favor a continuance of existing extremely high prices, and nothing can be seen that points to any permanent decline for some time to come. High prices and favorable weather are not bringing hogs to western markets as freely as was expected, and the natural inference is that the hogs are not to be had, or they would be shipped in at a time of such extraordinarily high prices. As a result of the serious shortage thruout the east, there has been a large eastern shipping demand for hogs in the Chicago market for some time past, and these purchases during the past month ran far ahead of the month of August last year. This insistent outside demand is a powerful influence in making high prices, shipping grade of hogs for a month past having averaged about \$1.50 per 100 lbs. more than a year ago. Whenever any considerable drop in values has taken place the receipts have fallen off materially, and every decline in prices starts up a big eastern shipping demand, thereby cutting off supplies for the Chicago packers. No cheap hogs for next winter are expected, and large supplies will undoubtedly be delayed until late in 1910. There is an unusual scarcity of pigs in the western markets, and in feeding sections stock hogs are in urgent demand, with extremely few to be had on any terms. Some time ago the packers made attempts to start a run of hogs to market by breaking prices sharply and by advertising as widely as they could thru their organs that the time had come to put the market on a lower level, but their plans failed to work, and since then hogs have been purchased more freely, altho most of the better class of swine have been taken for eastern shipment. It is stated that a manager of a leading packing concern in Chicago believes that the lowest cost of a drove of hogs the coming winter will be \$6.50 per 100 lbs.

During the last few years sheep and lamb feeding has been carried on to a great extent by large feeders, and this has not been confined to Colorado, but has been common in several other prominent sheep feeding sections. This year a change is taking place, and the small feeder is once more the prominent factor, large feeders being far less numerous than was the case last year. Advices from Colorado indicate a much smaller demand for feeding lambs this season than for years past, owing to the second crop of alfalfa having been damaged by grasshoppers. The small feeder is very much in evidence in the Chicago, Omaha and other western markets, and farmers thruout Iowa, Missouri, Nebraska and other states report an abundance of rough feed and expectations of enough corn to render stock feeding attractive, altho in some places dry weather has made the outcome of the crop uncertain to say the least.

The extremely high cost of pork is held partly responsible for the unusually large consumption of veal at the present time. Within a short time prime veal calves have sold in the Chicago market for \$9.25 per 100 lbs., and it has been impossible to supply the urgent demand. Heavy calves, such as are usually shipped back to the country for stockers and feeders, have been taken recently by the Chicago packers at \$4.50@5 per 100 lbs., and general quotations for calves have been at the highest level of the year.

Reports from Texas are that there are fewer cattle thruout the state than a few years ago, and a new and suggestive feature is found in the numerous inquiries for yearling steers and calves for feeding purposes. Matured steers are all wanted, and they can be disposed of at home. Feed has been abundant all the summer, and cattle are now reported as in good condition, cottonseed meal being fed freely. Cotton is grown more and more all the time, as well as other crops, and the open range is fast disappearing.

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 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.

September 9, 1909.

Cattle.

Receipts, 1,102. Market strong at last week's prices on all grades but stockers, which are a trifle lower.

We quote: Dry-fed steers, \$5@5.50; steers and heifers, 1,000 to 1,200, \$4.50@4.85; steers and heifers, 800 to 1,000, \$3.75@4.25; grass steers and heifers that are fat, 800 to 1,000, \$3.75@4.25; grass steers and heifers that are fat, 500 to 700, \$3.25@3.50; choice fat cows, \$3.75@4.50; good fat cows, \$3.50; common cows, \$2.50@3; canners, \$1.75@2; choice heavy bulls, \$3.50@3.75; fair to good bolognas, bulls, \$3@3.25; stock bulls, \$2.50@3; choice feeding steers, 800 to 1,000, \$4@4.25; fair feeding steers, 800 to 1,000, \$3.50@3.75; choice stockers, 500 to 700, \$3.25@3.50; fair stockers, 500 to 700, \$2.75@3; stock heifers, \$2.50@3; milkers, large, young, medium age, \$4@6; common milkers, \$2.50@3.50.

Roe Com. Co. sold Rattkowsky 10 butchers av 613 at \$3.50, 3 do av 866 at \$3.25, 1 do weighing 400 at \$3, 1 heifer weighing 590 at \$3; to Regan 8 do av 554 at \$3.25, 9 do av 486 at \$3.15; to Bresnahan, Jr., 7 stockers av 490 at \$3.15; to Hammond, S. & Co. 2 cows av 940 at \$3, 1 do weighing 750 at \$2.50, 6 do av 913 at \$2.75, 1 do weighing 850 at \$2.50, 3 bulls av 853 at \$3, 1 cow weighing 960 at \$3.25, 2 do av 850 at \$2.50; to Hunt 5 bulls av 800 at \$3; to Bresnahan, Jr., 5 stockers av 430 at \$3; to Austin 42 stockers av 500 at \$3.20; to Mich. B. Co. 16 butchers av 700 at \$3.80, 22 steers av 801 at \$4.40, 25 do av 821 at \$4.40; to Kamman 15 butchers av 742 at \$3.85; to Sullivan P. Co. 1 cow weighing 1,420 at \$4.20 butchers av 446 at \$3.10, 8 bulls av 631 at \$2.85, 3 do av 1,142 at \$3.50; to Goose 9 butchers av 934 at \$3.50; to Mich. B. Co. 10 do av 797 at \$4.10; to Hammond, S. & Co. 1 bull weighing 1,150 at \$3.50, 1 do weighing 1,220 at \$3.50, 2 do av 750 at \$3; to Teagan 9 stockers av 618 at \$3.60; to Hammond, S. & Co. 2 bulls av 890 at \$3.10; to Smith 11 feeders av 780 at \$4.10; to Laboe 10 heifers av 750 at \$3.75; to Marx 2 steers av 615 at \$3.35; to Bresnahan 2 butchers av 615 at \$3.35, 3 do av 593 at \$3.40.

Bishop, B. & H. sold Mich. B. Co. 3 steers av 846 at \$4, 1 bull weighing 630 at \$3, 3 heifers av 760 at \$3.50, 1 cow av 909 at \$2.50; to Hammond, S. & Co. 18 butchers av 633 at \$3.80, 1 heifer weighing 720 at \$3.50, 1 bull weighing 110 at \$3.50, 10 butchers av 410 at \$2.50, 13 do av 506 at \$3.25, 2 cows av 875 at \$3, 2 do av 1,065 at \$3.50; to Mich. B. Co. 8 steers av 835 at \$4.45; to Markowitz 10 butchers av 813 at \$4.35, 5 do av 632 at \$3.50; to Mich. B. Co. 5 do av 868 at \$4.35; to Caplis 4 cows av 1,017 at \$3.50, 5 do av 920 at \$2.10, 5 do av 1,060 at \$3.50, 3 do av 1,010 at \$2.25; to Newton B. Co. 2 do av 1,020 at \$2.50, 5 heifers av 796 at \$3.75, 10 butchers av 830 at \$3.10.

Spicer, M. & R. sold Mich. B. Co. 31 butchers av 840 at \$4.25, 1 heifer weighing 620 at \$3.75, 1 canner weighing 930 at \$1.75; to Sullivan P. Co. 34 cows av 1,034 at \$3.75; to Hammond, S. & Co. 2 bulls av 810 at \$3.25, 3 butchers av 333 at \$3.25, 8 do av 654 at \$3.75, 2 bulls av 825 at \$3.45, 2 cows av 820 at \$3, 2 heifers av 540 at \$3.40; to Hunt 10 butchers av 610 at \$3.45; to Carl Kull 10 steers av 962 at \$4.75, 2 do av 740 at \$3.75, 7 butchers av 583 at \$3.50, 1 steer weighing 1,020 at \$4.50, 1 do weighing 620 at \$3, 1 bull weighing 890 at \$3.50, 3 butchers av 860 at \$3.75, 12 do av 762 at \$4; to Dombetke 3 bulls av 703 at \$3.25, 7 butchers av 570 at \$3.25, 1 cow weighing 980 at \$2.50; to Goose 8 butchers av 460 at \$3, 1 bull weighing 350 at \$3; to McDonald 11 stockers av 532 at \$3.40, 14 do av 511 at \$3.50, 3 do av 557 at \$3.40, 3 do av 570 at \$3.50; to Sullivan P. Co. 1 cow weighing 1,000 at \$2, 1 do weighing 780 at \$2.50, 1 do weighing 1,050 at \$3.50; to W. Smith 11 stockers av 550 at \$3.60; to Cooke 9 steers av 900 at \$4.25; to Caplis 2 cows av 1,125 at \$4, 2 do av 985 at \$3.50, 5 butchers av 986 at \$4.25; to Cooke 4 steers av 1,047 at \$5.50, 1 do weighing 900 at \$4.25; to Hammond, S. & Co. 2 cows av 905 at \$3, 2 heifers av 725 at \$4, 2 do av 745 at \$3.50, 1 bull weighing 1,570 at \$3.75, 2 do av 875 at \$3.25, 10 butchers av 835 at \$3.75; to Laboe 4 steers av 725 at \$3.75; to Kamman 5 bulls av 826 at \$3.25; to Goose 1 cow weighing 1,050 at \$3.25.

Sharp sold Marx 4 steers av 957 at \$4.65.

Johnson sold Lachalt 11 butchers av 682 at \$3.60.

Weeks sold same 2 bulls av 1,110 at \$3.55.

Haley sold same 5 butchers av 666 at \$3.60.

Same sold Smith 5 stockers av 540 at \$3.50.

Weeks sold Lingeman 5 steers av 780 at \$4.30.

Haley sold same 2 heifers av 640 at \$3.25.

Same sold Goose 25 butchers av 240 at \$3.50.

Same sold Wilkie 12 stockers av 460 at \$3, 4 bulls av 537 at \$2.85.

Adams sold Mich. B. Co. 9 butchers av 784 at \$4, 5 bulls av 1,115 at \$3.40.

Bohm sold same 4 butchers av 845 at \$4.25, 4 do av 737 at \$3.80.

Kalahar sold same 4 cows av 1,115 at \$3.80.

Adams sold Rattkowsky 4 butchers av 495 at \$3.

Haley sold same 2 do av 415 at \$3.65.

Adams sold Bordine 4 stockers av 650 at \$3.50.

Haley sold Lingeman 2 cows av 1,285 at \$4.75.

Haley sold Kamman B. Co. 6 butchers av 796 at \$3.85.

Same sold Sullivan P. Co. 10 butchers av 537 at \$3.40.

Johnson sold Bresnahan 6 heifers av 560 at \$3.40.

Haley sold Schlischer 10 butchers av 795 at \$3.40, 6 do av 603 at \$3.10.

Johnson sold Hammond, S. & Co. 4 steers av 967 at \$4.70.

Haley sold same 4 bulls av 807 at \$3.25, 1 do weighing 540 at \$2.50, 1 do weighing 1,070 at \$3.50, 3 butchers av 933 at \$4.25.

Lovewell sold Newton B. Co. 4 cows av 1,037 at \$4, 2 steers av 875 at \$4.25, 2 bulls av 795 at \$3.25.

Wilson sold Markowitz 3 cows av 1,026 at \$2.50.

Veal Calves.

Receipts, 438. Market 25c lower than last week. Best, \$8.75@9.25; others, \$4@7.50; milch cows and springers, strong.

Bishop, B. & H. sold Newton B. Co. 2 av 155 at \$9, 2 av 155 at \$9, 1 weighing 180 at \$7.50, 1 weighing 120 at \$8; to Goose 11 av 280 at \$3.25; to Sullivan P. Co. 6 av 160 at \$9.25, 2 av 155 at \$6, 24 av 160 at \$9; to Fitzpatrick Bros. 15 av 135 at \$8.50; to McGuire 15 av 150 at \$9; to Mich. B. Co. 9 av 150 at \$9, 3 av 130 at \$9, 1 weighing 250 at \$6, 7 av 145 at \$9, 5 av 165 at \$8.75; to Fitzpatrick Bros. 5 av 160 at \$9, 4 av 130 at \$8.75, 4 av 140 at \$9.

Roe Com. Co. sold Sullivan P. Co. 1 weighing 220 at \$5, 2 av 145 at \$9; to Kamman 3 av 140 at \$8; to Sullivan P. Co. 2 av 150 at \$4; to Goose 8 av 270 at \$3.50; to Burnstine 6 av 155 at \$9.

Kalahar sold Hammond, S. & Co. 9 av 150 at \$8.50.

Clark & McK. sold Newton B. Co. 7 av 150 at \$8.50.

Spicer, M. & R. sold Mich. B. Co. 5 av 145 at \$9, 5 av 150 at \$9; to Newton B. Co. 14 av 140 at \$8.50; to Goose 8 av 160 at \$5.25; to Sullivan P. Co. 5 av 140 at \$9, 2 av 130 at \$9; to Burnstine 8 av 150 at \$9.10.

Wickman sold Fitzpatrick 3 av 95 at \$7, 1 weighing 145 at \$8.50.

Merritt sold Mich. B. Co. 7 av 145 at \$9, 2 av 115 at \$8.

Vickery sold same 1 weighing 210 at \$6.75, 6 av 130 at \$9.

Allen sold same 6 av 300 at \$5, 3 av 150 at \$8.50.

Haley sold Newton B. Co. 1 weighing 140 at \$8.50.

Kendall sold Burnstine 5 av 160 at \$9.25.

Taggart sold same 3 av 140 at \$9.

Kendall sold same 5 av 160 at \$9.25.

Weeks sold same 9 av 150 at \$9, 2 av 190 at \$7.

Snyder sold same 11 av 160 at \$9.

Sheep and Lambs.

Receipts, 4,013. Market over supplied and 50c lower than last week. Common stuff very hard to sell.

Best lambs, \$6.25@6.50; fair to good lambs, \$5@5.50; light to common lambs, \$3.50@4.50; yearlings, \$4.50@5; fair to good sheep, \$3.50@4; culls and common, \$2@2.50.

Roe Com. Co. sold Mich. B. Co. 27 sheep av 90 at \$4.50, 20 lambs av 60 at \$5.50, 93 do av 75 at \$6.50, 11 do av 62 at \$5, 26 sheep av 105 at \$3.50; to Eschrich 5 do av 95 at \$2.50, 25 lambs av 50 at \$4; to Kamman 68 do av 63 at \$6; to Parker, W. & Co. 111 do av 70 at \$6.60; to Sullivan P. Co. 14 do av 55 at \$5, 4 sheep av 110 at \$3.50; to Kamman 38 mixed av 70 at \$4; to Thompson Bros. 44 sheep av 90 at \$3.50, 19 lambs av 50 at \$4.

Bishop, B. & H. sold Mich. B. Co. 32 lambs av 67 at \$4.50, 40 do av 70 at \$6.65, 13 do av 70 at \$5.50; to Fitzpatrick Bros. 13 sheep av 75 at \$3.25, 12 do av 110 at \$3.75; to Sullivan P. Co. 75 lambs av 75 at \$6.50, 10 do av 59 at \$4.50; to Mich. B. Co. 35 sheep av 90 at \$3.50, 19 lambs av 50 at \$4.50; to Ink 97 sheep av 90 at \$4, 3 sheep av 132 at \$3; to Powers 185 lambs av 65 at \$6.75, 69 do av 65 at \$6.75; to Allen 53 do av 45 at \$4.50; to Fitzpatrick Bros. 25 do av 68 at \$6.25, 14 sheep av 80 at \$2.50, 6 lambs av 68 at \$6.50, 11 sheep av 95 at \$2.50, 28 lambs av 80 at \$5.75; to Sullivan P. Co. 27 do av 75 at \$5.75.

Spicer, M. & R. sold Mich. B. Co. 18 lambs av 55 at \$5, 16 do av 63 at \$5.25, 2 sheep av 125 at \$2.75, 2 do av 75 at \$2, 15 do av 90 at \$3.25, 15 lambs av 65 at \$6.50; to Newton B. Co. 14 do av 67 at \$6.50; to Mich. B. Co. 37 do av 75 at \$6.25; to Fitzpatrick Bros. 27 do av 75 at \$6.60; to Stoker 11 do av 60 at \$5; to Ink 7 sheep av 90 at \$4; to Sullivan P. Co. 9 lambs av 68 at \$4.50, 18 do av 58 at \$6.50; to Stoker 19 do av 50 at \$4.50; to Fitzpatrick Bros. 27 mixed av 58 at \$4.25; to Young 71 lambs av 65 at \$6.25.

Merritt sold Parker, W. & Co. 4 sheep av 115 at \$3, 25 lambs av 53 at \$6.

Johnson sold Thompson Bros. 10 lambs av 39 at \$3.50, 44 do av 53 at \$5.25.

Kalahar sold Hammond, S. & Co. 29 lambs av 65 at \$6.50.

Haley sold Fitzpatrick Bros. 14 sheep av 110 at \$3.80.

Wickman sold same 5 do av 80 at \$3, 39 mixed av 90 at \$4.75.

Haley sold Newton B. Co. 10 lambs av 57 at \$5, 45 do av 73 at \$6, 41 do av 77 at \$6.35, 9 do av 63 at \$5, 58 do av 73 at \$6.25, 27 sheep av 110 at \$4.10, 14 lambs av 60 at \$5.

Clark & McK. sold same 24 do av 80 at \$6.65.

Johnson sold Mich. B. Co. 25 lambs av 73 at \$6.60.

Allen sold same 24 do av 70 at \$6.25, 10 do av 66 at \$4.50.

Hogs.

Receipts, 3,370. Good grades 15c higher; pigs and common steady.

Range of prices: Light to good butchers, \$8@8.35; pigs, \$7.25@7.75; light yorkers, \$7.80@8.10; stags, ¾ off.

Sundry shippers sold Hammond, S. & Co. 52 av 145 at \$7.90, 54 av 175 at \$8.15, 131 av 185 at \$8.25, 70 av 180 at \$8.15, 56 av 150 at \$7.80.

Spicer, M. & R. sold same 45 av 185 at \$7.80, 85 av 155 at \$7.90, 338 av 170 at \$8, 115 av 195 at \$8.25, 60 av 180 at \$8.35.

Roe Com. Co. sold same 151 av 150 at \$8, 86 av 185 at \$8.15, 15 av 175 at \$8.35.

Sundry shippers sold Sullivan P. Co. 133 av 175 at \$8.10, 78 av 200 at \$8.35.

Spicer, M. & R. sold same 68 av 175 at \$8.15, 19 av 170 at \$8.25.

Bishop, B. & H. sold Parker, W. & Co. 580 av 175 at \$8.25, 255 av 165 at \$8.15, 408 av 170 at \$8, 153 av 160 at \$8.10, 288 av 150 at \$7.90, 204 av 200 at \$8.30, 140 av 145 at \$7.70, 28 av 230 at \$8.35.

Friday's Market.

September 3, 1909.

Cattle.

The run of cattle Friday was light and the market about the same as on Thursday. The total run this week was 502 head more than last week, but everything was sold and nearly everything went to the local butchers for home consumption. Very few extra good cattle were in the receipts this week, but a few head reaching the \$5 mark. Milch cows were scarce and steady; best grades selling from \$50 to \$60.

Sheep and Lambs.

The sheep and lambs trade was dull at Thursday's prices for good grades, but common stock and bucky lambs were almost unsalable and went at very low prices. This class of stock will go lower and should be bot with care. No one here wants bucky stuff and a few had to be held over for next week's market.

Best lambs, \$6.50@6.70; fair to good lambs, \$6.25; light to common lambs, \$3.50@4; yearlings, \$5; fair to good sheep, \$3.50@4; culls and common, \$2.25@3.

Hogs.

The hog market was a trifle higher than on Thursday for anything good, but grassy stuff and roughs were very dull and hard to sell at Thursday's decline. Packers have no use for these common old sows or boars.

Light to good butchers, \$7.90@8.10; pigs, \$7.25@7.75; light yorkers, \$7.60@8; roughs ¾ off.

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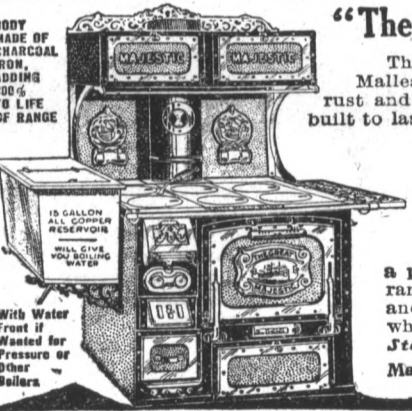
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HOME AND YOUTH

THE TURN OF THE ROAD.

BY CHARLOTTE BIRD.

The gate swung to and the latch fell into its place with a sharp click. Mrs. Mason, who stood by the kitchen table in front of the window washing dishes, heard it and glanced up curiously from her work. "Ah, it is Ralph, poor boy," she said to herself, and she gently sighed, for after three years she was still unable to reconcile herself to the hard circumstances by which her boy had lost one of his legs.

"He has been down at the mail box," she went on. "I wonder what kind of news he got this morning. A body can hardly tell by just looking at him, and somehow I don't like to ask, either."

She watched the youth narrowly as he swung along on his cane and crutch towards the house down the worn, crooked path which cut the greensward diagonally into two unequal parts. Mrs. Mason was a flower-lover and this quaint yard was the visible expression of her floral taste. The rough old-fashioned walk was bordered on one side by a long bed of old-fashioned flowers, such as musk, phlox, balsam, poppies, buttercups and marigolds. And now with a gorgeousness bordering upon the immodest they flaunted their brilliancy in the eye of the passerby. The day was still young and the tall oaks of the grove to the east were reaching out in long shadows over the grass whose every blade was jewel-strung. But even now by all its signs, so elusive to the general mind, nature was giving fair warning that she was about to send a hot day.

Ralph stepped upon the long, old-fashioned porch, shaded at one end by a thick growth of Maderia vines trained on strings to the edge of the low-hanging roof. But here, where he would have sat down, the aggressive sunshine lay in a brazen, glaring rectangular patch and the breath of the new day came hot and palpitating. So he penetrated to the cooler retreat of the kitchen.

"Hello here, you rascal Tige," Mrs. Mason heard her son salute the favorite household cat and then saw him lay a caressing hand on the soft fur. The cat yawned and then in the leisurely way of cats offered to surrender his place. "Lie still, old chap; never mind me," assured Ralph. "While I read, I can just as well sit further down on the sofa." Seeing this comfortable trend of affairs, Tige changed his mind, tucked his nose once more into his furry side and resumed his nap.

Mrs. Mason, meanwhile, was rather anxiously noting signs. Her brief study of Ralph's face thru the window had revealed nothing. And now she was weighing the significance of his tone and behavior with a like inability to glean any intelligence. "I s'pose I've got to ask him right out," she decided.

Under the pretext that it badly needed cleaning Mrs. Mason now approached the window near Ralph and with a wet cloth in her thick, work-stained fingers began energetically to wipe the woodwork. "I do declare," she soliloquized, "I believe that it is as hard for me to stand as it is for him." Then summoning up a tone as indifferent as if all morning and all the other mornings she had not somewhat eagerly anticipated the answer to her question, she asked: "Well, Ralph, what news this morning?"

"No news this morning, mother—no letters, I mean."

At this the mother's face assumed a somewhat commiserating expression, so she hastily added: "No news, you know, mother, is good news."

"Yes, I s'pose so—in your case," agreed Mrs. Mason rather wearily. "Ralph, you certainly are the cheerfulest body I ever see."

"Why, I don't know, mother," and Ralph laughed brightly.

"Then I know. No knocks to your hopes seemin'ly can discourage you. I don't see how you can keep up your spirits so. Anybody else would have give up long ago and let the old cornplanter go to grass."

"Mother," answered the youth solemnly, "I shall never give up my cornplanter—never as long as I live. Why, mother, I can't give it up. The gift of any talent involves responsibility. This work is my duty. I have invented my cornplanter and secured my patent. And now, since

I have no money with which to manufacture it, I must find a buyer who can manufacture it for me."

Mrs. Mason had heard all these arguments before. "If you only can," she weakly resumed. "But it has been so long now. How long have you been fussin' with the thing, Ralph?"

"Let me see, I began a year and a half before I got sick and had to have my leg taken off—it is about five years now."

"Five years is an awful long time to have to wait."

"Yes, it is. But I could have shortened the time greatly if I had only had the money sooner with which to secure my patent."

"You have sunk nearly all your school money in it—and after all your hard work," and again Mrs. Mason sighed. To her money was a very important article indeed, and one very hard to win. "You haven't hardly kept enough to buy you decent clothes," she resumed. "But then, your scholars always like you an' you never have to do any whippin' much."

"Yes, mother, patents cost money. Such things always cost work and risk and time—a lot of time. But that is a part of the game. I shall fight it out on this line if it takes all summer."

"Yes, I s'pose you will."

"Why, mother, just think of the other inventors. In comparison with some of the greatest of them I have had an easy time. There was the inventor of the telegraph. He—"

"Yes, yes, you have told me about him many and many a time. I am awful glad that you can get comfort out of their trials, tho I never could squeeze any consolation out of other people's troubles."

Ralph laughed with a merry ha! ha "Nor could I, mother. But their experiences teach one the rules of the game."

"It certainly is a great credit to you to keep on hopin' this way in the face of everything. But they say the darkest hour comes just before the break of day."

"Why, mother, there is no great credit about it. I can clearly see the outcome. Success is headed my way as surely as tomorrow's sun is to rise."

"Maybe it is—if you have that feelin' about it. Somehow I have a good bit of faith in a body's feelin's about such things. They are a kind of foresight."

Ralph gazed dreamily down over the hill in the pasture lot, where the sheep grazed. Then his gaze traveled to the woods where the rising breeze tossed the plumelike branches of the trees. "If there is anything in one's feelings, mother, my success is coming soon, very soon." He hesitated a moment; even with his beloved and trusted mother he had his deep reserves. Presently he went on: "That was a very favorable letter which the Gerlach Brothers wrote me last week. They are certainly considering the purchase of my patent."

"Yes, Ralph. But if I was in your place, I wouldn't screw up my hopes too high. Then, whatever happens, they won't have to take a tumble. An' as far as the encouragin' letters is concerned, haven't you been gettin' them off an' on for a year or more—ever since you've had your patent? An' what has it ever come to?"

"I shall not be disappointed," but in spite of himself Ralph sighed. He was but a boy and he was human. This morning his mother was depressing. In a moment he resumed: "When my money comes, I am going to share it with the rest of you. For one thing, I am going to send sister Esther to college and—"

"That is nice of you, Ralph; you never have been selfish. But—I wouldn't say much about what I was goin' to do with my money—not to anybody else, I mean."

"They don't understand."

"No, they don't understand an' their twittin' hurts your feelin's—I see that plain. But mother understands. She knows that you are goin' to come out all right—some time. So, whenever you get so filled up you can't hold in any longer, you needn't bottle up but just come to your mother an' bubble over. An' by an' by you're a goin' to have success."

A great mother pity filled Mrs. Mason's heart. She sometimes chided herself for thus weakly yielding to her motherly instinct to soothe and so possibly further mislead her dear boy. Would it not have been wiser if she could strongly have helped him to face the truth—the probable futility of his hopes? But what loving mother could look into her son's pale, thin face and utter such annihilating words?

"It seems curious that with all my explanation I can't make them understand," and a momentary cloud of sadness flitted across Ralph's sunny face. He was well learning the tragedy of ascending the chilly and solitary path which leads to distinction—even tho he had not yet reached the summit's height. He had found the winning of distinction a transaction which gives nothing on trust but demands full payment in advance.

Ralph went on: "Yes, they all laugh at me. But, blame the luck, I'll show them yet—every mother's son of them. I will not give up; I will succeed in spite of everything. I will not be worsted in the fight. Why can't they also see that the higher the career, the more capital one must put into it—the harder must be the preliminary work and the longer the wait!"

"Well, they just can't see. But, as you say, you'll show them; an' you will, if workin' an' waitin' has anything to do with the matter."

Mrs. Mason now turned back to her domestic work and Ralph went on silently examining the newspapers which had come in the mail; they were mostly farm journals. He looked carefully thru the advertisements to discover any new firm which might have gone into the business of manufacturing farming implements. To any such he might write and call attention to his invention. Even tho Gerlach Brothers, manufacturers of all kinds of farming implements, held out a hope, had not others done the same only to disappoint him in the end? No, he must not rest upon his oars, satisfied with his present resources; he must keep his future in mind and continue to add to his chances.

Therefore, he took his notebook from his pocket and jotted down a new address; he would write yet that day. Then he put the notebook back into his pocket, folded up the last paper and stuck it into the rack and, gathering up his cane and crutch from the floor, announced: "Mother, I am going over to Granddad's for a little while. I want to see their papers now."

"To be sure. Why, laws a massy, it is after ten o'clock a'ready. I must pare the potatoes for dinner right away."

As Ralph went out of the yard in the direction of another house across the road still more quaint than his own home, his mother, with a fond, yearning look, gazed after him. "Ralph, the poor boy," she sighed, "he never was like either of the other two children, let alone his bein' lame." Whenever she thot of Ralph with his meager chances in life as compared with those of her healthy, well-favored children, Mrs. Mason was very likely to sigh. "If the poor boy would only give up that idea of inventin' things! He is a natural born scholar an' a real good school teacher, even if he is a little slack in his government. An' he could get money ahead at school teachin'."

The two old people, Granddad and Grandmother, were sitting in their low chairs on the front porch. She in her dark print, set off by a snowy collar and apron, was crocheting something white from the ball in her lap while he, leaning over his idly clasped hands, was evidently telling one of his oft-repeated stories. She was laughing; she always laughed at her old husband's jokes, especially now since his memory had become so bad, and thus without guilt humored his delusion that he was telling something perfectly fresh and new.

As they discovered Ralph's approach both old people looked up with a pleased expression. His arrival was to them always a note of cheerfulness in the arid stretch of their secluded lives. "Ralph looks real thin an' peeked this mornin'," remarked his grandmother in an undertone.

Before the grandfather had time to answer Ralph hailed them: "Good mornin'!" and the old people instantly forgot about his pale face. "It is a fine day," remarked the boy further and they agreed with him. Wherever Ralph was, the weather was likely to be fine because somehow people did not notice the clouds or found themselves better able to bear the heat or the cold.

The old people were not demonstrative. It would never have occurred to them to express their pleasure at his coming verbally; they would not willingly have risked spoiling his natural modesty. So they merely smiled and chatted a little more briskly than before.

The boy, as in their eyes Ralph still was, settled himself likewise in the unoccupied cushioned split-bottom chair in a

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straight line with the other two and leaned his cane and crutch against the old-fashioned railing of the porch.

"I came over, Granddad, to look at your papers, if you don't mind," and, already assured of his grandfather's willingness, he picked one up from the bench which extended along the inner wall.

"Ye aim to study the advertisements, I reckon?" asked the old man in a quavering, senile voice.

"Well—yes," Ralph admitted rather reluctantly. He had learned long ago from experience not to take his grandfather into his full confidence as an amateur inventor.

"That there bee of a cornplanter still buzzin' around in yer bonnet, is it?" pursued the old man, and he spat noisily out beyond the range of the morning-glory vines.

"To be sure," again confessed the youth, without enthusiasm.

"Ye have been a tinkerin' at it a good spell now, hav'n't ye?" It was time, the old man saw, when somebody ought to discourage this idle dream of a visionary. And he did not begrudge lending himself as an instrument in the good work. His long life, he felt, had amply endowed him with a patriarchal authority to judge and speak on this as well as any other subject more nearly related to his experiences.

"An' ye have sunk a good bit of money in it—I reckon, a hundred dollars or more?"

"Ye-e-e-s," again confessed Ralph in a low voice. He heartily wished that his grandfather would talk about something else. He cast about in his mind for some means to switch off the talk upon a more agreeable topic. The youth thoroly loved and revered his grandfather. But his talk about this invention was to the discoverer like coarse, bungling fingers rudely handling his choicest and most delicately adjusted treasure. How much more than a hundred dollars he had spent on his cornplanter he would never venture to own to his grandfather. In the eyes of this shrewd and prudent old man such recklessness on a mere chance would have been little short of criminal. It would have been altogether idiotic.

"Well, it was yer own money," declared the old man magnanimously and as vehemently as if he had been combating the arguments of some invisible adversary, and again he spat on the hard, smoothly packed earth walk which led around to the smokehouse in the rear. "Ye ain't it yerself an' ye had a right to spend it as ye had a mind to."

"It rather looks that way to me," but Ralph's smile was wan.

"A hundred dollars is a heap of money, tho, for a poor boy an' a cripple at that," the old man quavered bumblingly on. "An' I don't reckon ye'll ever get a cent of it back—out of yer cornplanter an' other inventions. It takes a turrible good head at figgerin' to make money out of inventin' things."

"I guess, granddad, that is about right," and then Ralph fell silent. He had all the delicacy of feeling which goes with the finely strung nervous system. He could not resent his good-natured grandfather's brutal candor, but he felt as if he had received a blow in the face, as if the life were being slowly strangled out of his body.

His grandmother seemed to have a glimmer of the situation for she quickly challenged: "There is no tellin', tho, what may come from a runty," and back of the uncomplimentary suggestion of the words Ralph gratefully divined all the undiluted kindness which had given them birth.

In the, to him, almost endless period of working and waiting, Ralph had had his gray days—a plenty of them; only he did not find it advisable to throw his clouds over other people's heads. And now his grandfather's unhelpful words, added to his mother's unusually depressing language that morning, were for once too much for the brave boy's courage. Suddenly all his outlook came to him as dreary and desolate and his bright hopes of only a few hours before fell to ashes. Could it be that all these years he had been following a mere will-o-the-wisp; was it possible that after all his grandfather's judgment was correct, that his father, brother, and sister were justified in laughing him out of a silly aim in life—an aim silly because it was so utterly out of his reach? Was it possible that everybody else had been wrong and he right? Did not such an assumption rather involve a ridiculous amount of egotism on his part? He thot of poor Abijah Williams who had gone daffy over trying to invent a flying machine. But no, no,

it couldn't be that he was in the least like Abijah. And yet—what if they were right? Ah, what then? and there was a nervous catch in his throat and an illness in his whole body.

He had uncomplainingly for years borne the teasing of his family, his friends, his acquaintances. But never before in his presence had any one gone so far as to question the possibility of his ultimate success. "Granddad, the dear old man, cannot possibly know how to the quick his doubt cuts," reflected Ralph.

Never before had the discouraging contingencies of his case so clearly presented themselves to his mind. He could no longer stay here. He must run away somewhere and be alone with his thots till he could get things straight in his mind and readjust himself to his world. If he had been mistaken in all these years of work, he must know it now. And somehow he had faith to believe that the truth of the matter would become clear to him.

He made some excuse to get away without betraying his feelings to the old people. Thru the sweltering sunshine he hobbled dejectedly out into the soothing tranquility of the woods nearby. He sought out his old retreat and sank down on the soft ground with his back against a big oak and tried to quiet his thots and give himself up to the influences of the place. Somehow, he was sure that here the light would break in upon his soul. But the thots still surged tumultuously thru his brain.

This invention had been a sickeningly long business and even now there was no visible reward. He could not hide from himself that the weight of evidence rested on his grandfather's side. His father, too, he was uneasily convinced, shared the belief that the time and effort and money had been wasted. "Ralph is an odd dick," agreed the neighbors among themselves. "But, being such a cripple, he can't work—can just teach school winters and springs. So to help him pass the time what harm is there in his tinkering around with his empty spools and old clock springs and wheels, which he always keeps in a cigar box in the shed? The fellow is everlastingly whittling at something."

These conclusions, however, or any others which could cast down his spirits, were rarely uttered within range of Ralph's ears. In spite of this laughable weakness of his, everybody enthusiastically liked him; he was so unfailingly cheerful and good-natured and ready to do some one a kind turn.

Presently Ralph's mind grew quieter. He listened to the murmuring of the trees, the cheerful wood notes and surrendered himself completely to the tranquillizing influences of nature. With Ralph all mental and spiritual processes were rapid. Presently a sweet peace stole over his whole being. Things came to him in their correct relations and proportions, small things small and large things large. The time had been long, to be sure, and apparently without result. But had not the discipline of a steadfast faithfulness to a worthy ideal imparted to his character a definite moral tone? Invention was his work, his duty, his stent in life. Very well, then, he would faithfully do the stent assigned him and let the temporal success take care of itself. The temporal success was not his part, but the faithful discharge of his task. After all, what was his struggle compared with the aggregate struggle of humanity? He would go on and get the moral and spiritual strength and that alone would be the highest success in the world. He merely felt all this; he could not have put it into words. And thus his vision was clarified and his spirit tranquilized.

"And yet," he suddenly knew, "for me life does hold also temporal success. The young Solomon prayed for wisdom and all else was added to his gifts. So will it be with me also."

Ralph now laughed at the fears which only an hour before had so beset him. "What should grandfather, the good old man, know about inventors and the difficulties which they have to overcome? He himself has been a mere farmer with a' his worldly experiences cling'g close to the earth. He means well but his testimony regarding inventions has no value. Is not my hope abundantly borne out by the experiences of every inventor worth the name?"

When at length Ralph reawoke to the consciousness of the outer world about him, he realized with a start that it must be very late dinner time. He was conscience-stricken when he realized that very likely his mother was worrying about

his absence and that in any case he had put her to extra trouble. And, sure enough, when he reappeared at the house, the family had left the table. But for once he could eat a meal alone and secure from the good-natured but still trying chaffing.

At first sight of Ralph's face all his mother's anxieties evaporated. There she read a hope revived, a hope of success at hand. But there was something else there which she could not fathom. But she was not of a subtle turn of mind and did not try to analyze it. But for some reason its presence rejoiced her heart.

It was the keen eyes of his mother alone that ever detected in Ralph any trace of drooping spirits. But she said nothing and he said nothing. Only at the next meal he was pretty sure to find an extra dainty at his plate in the form of a little pie or cake or a choide bit of meat, left over from a preceding meal which, she was careful to explain, it would be a pity to waste by throwing away. On Ralph's grayer days it was really remarkable how many choice things his mother managed to rescue in this way. If she had not begun in his tender years and so gradually and tactfully accustomed him to the practice, Ralph certainly never would have consented to be so mollycoddled. As it was, he never suspected in it any deliberate purpose.

On this particular day she quickly discovered that the dainties, tho they were already by his plate, would not be especially needed. But she drew something out of the oven and filled his plate to overflowing and urged him to eat and never mind if she cleared away the soiled plates.

Ralph had fought too hard for his victory not to endure. Therefore, the next morning, when he was about to visit the mail box it was with the serenity of one who realizes that his affairs are continually moulded by a power transcending the mundane. Whatever the mail might bring, he would be given strength to bear it, but life could hold nothing for him which would not be ultimately good. What was truly his, could not always be kept from him.

With quick, confident movements, Ralph swung himself out to the box. He was glad that the postman was gone for there was something about this almost like a religious rite. Like a bead each day was picked off the string of time and of each the coming of the mail was to him the event. And this morning the fact came to him weighted with peculiar significance.

He trembled a little as he put his hand into the box. But after all what mattered one more rebuff, if such there must be? Yes, as he had anticipated, there was the letter with the Gerlach Brothers' imprint—a rather thick letter this time, he absently noted. This was probably their final decision.

So many times the poor boy had been disappointed and so used was he to the hope deferred. In spite of himself he turned deathly sick and stood motionless with the letter in his nerveless fingers. How would he feel if this also should inform him that the Gerlach Brothers, having maturely considered the matter, could not see how they could make and use of his invention?

But in a moment he had commanded himself. Then his success would be merely delayed and would have to come to him thru some other source. Then almost frantically he tore the envelope open and took out the letter. His glance swept rapidly over the communication.

Why, could he believe his eyes! Was he reading the letter correctly! Was it some lovely but cruel dream from which he was presently to waken only once again to find himself disappointed!

No, no; it was God's truth—God's own precious truth. "She will want to know it right away," was his next thot and with a shout of laughter he turned and fairly tore over the ground toward home. When he came within sight of his mother, as usual watching at the window, he energetically waved the letter over his head.

"What has happened, Ralphie?" and Mrs. Mason dashed excitedly to the edge of the porch. "What is the matter, Ralph?"

"Oh, mother! mother! it has come—at last!"

"What has come? Speak quick!"

"Success has come—the turn of the road."

"What?" ejaculated the mother, more excited than ever.

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"Guess! Why, Ralph, how should I know?"
"But guess! oh guess!" and fairly drunk with joy he seized her around the waist and tried to whirl her around.
"Don't Ralph—till you have told me every word of it. Maybe they have offered you as much as three hundred dollars?"
"Three hundred dollars nothing!" scoffed the now successful inventor.
"Why, mother!" Could it be that his mother also had all along been underrating his work? But his joy left no room for any unwelcome thought. "Why, mother, three hundred dollars would be no offer, for my cornplanter, I mean. They have offered me five thousand dollars—in cool cash."

"Five thousand dollars!" and Mrs. Mason's stare betrayed her utter surprise. "Why, Ralph Mason, you must be dreaming!"

"Indeed, and I am not dreaming. If you don't believe me, look here and see for yourself," and to prove his statement he showed his mother the letter.

"Why, Ralph, that is almost as much as your father is worth, farm and all."

"Mother mine, how funny you talk—after all my explanations, too."

They were silent a moment and then Ralph stormily resumed: "Now, best of mothers, what do you want for a present? It is my treat. Will you have a parlor carpet or a set of Haviland china? Or what else? Speak up. Throughout this long struggle you have been my right hand man."

The weight of her son's success struck Mrs. Mason silent. She was trying to take it all in with all its significance.

"And sister shall go to college now," Ralph purred on.

"But what about yourself? You are needy yourself."

"Oh, I am not going to give it all away—not by any means. I shall keep enough to get a patent on that improved wheat-binder which has for some time been pestering my brain. But isn't this fine! Whoopee! Hurrah!" and he waved his hat in the air. "Inventing things is the greatest fun that ever was."

Ralph's success was a nine days' wonder to everybody—only they had known all along that he was sure to make a heap of money some day. Even Grandfather Mason had known all along, he stoutly declared, that Ralph had an uncommonly good head-piece.

GRAPE JUICE AND GRAPE PRESERVE.

BY E. E. R.

Grapes are usually both plentiful and cheap. It costs very little to buy sufficient for household use during the year even tho they have to be purchased. At least a few vines ought to be planted in every home garden so that an abundant supply of this delicious and wholesome fruit might be ensured.

Grape juice is easily prepared and easily kept from fermenting. It is a healthful beverage at any time. In the sick room it becomes a refreshing and nourishing drink, in many cases almost indispensable. At any social gathering where light refreshments are offered it is appropriately served in small glasses either alone or in connection with wafers or cake.

To prepare the juice take ripe grapes and remove from the stems, rejecting any that are imperfect. Place in a granite kettle, barely cover with cold water, bring to a boil and cook gently until soft and broken in appearance. Remove from the fire and drain, either in a cloth bag or a fine sieve. The juice alone and not the pulp, is to be expressed, the same as in making jelly. After the juice has all drained out, pour it back into the kettle and heat to the boiling point, removing any scum that may appear. Add granulated sugar to suit the taste, let boil up, once more and pour into sterilized glass cans, sealing exactly as fruit. As an extra precaution melted paraffin may be poured over and around the tops.

Grape juice is kept in bottles also. Sterilize them with boiling water the same as the cans, fill, and cork firmly after dipping the corks in the boiling water. Use the paraffin freely on the corks and tops of the bottles, and the juice will keep all the year in a cool place.

Green grapes make a delicious jelly. It will be firm in body and a delicate pink in color. Green grapes, or those partially ripe are excellent made into preserves, use pound for pound. If allowed to stand for a few hours before putting into cans most of the seeds will settle to the bottom

of the kettle. Or they can be removed with a spoon as they come to the surface in boiling.

Ripe grapes, also, are the base of an excellent preserve made in the same manner. With these the pulps with the seeds may be quickly separated from the skins by hand before cooking. Cook the pulp separately, put thru a sieve to remove the seeds then add the skins with pound for pound of sugar, and cook until the juice jellies. This will keep in tumblers and is nice served the same as jelly, or as an adjunct of cold meats.

ECONOMIZING TIME AND ENERGY.

BY ESTHER PICKLES.

The busy housewife who has all the laundry, sewing, cooking, and general work to do for the family—needs to be on the alert for short cuts. There are many things she can leave undone without compromising herself as a good housekeeper.

The style in which the children are dressed makes a vast difference in the amount of labor. They may be kept in white ruffles and frills, but that means hours over the ironing, when the mother might be under an apple tree with lighter work, or enjoying a book with her children. Childhood days are fleeting, and if a mother enslaves herself for her children's vanity, she is not getting the enjoyment she should out of their early years, nor is she teaching them the proper appreciation of herself. I prefer the dark calico or gingham sack aprons for play for little girls, and the over-all suits are just the things for boys.

In speaking of ironing there is much that can be left undone. The gauze underwear, dish towels, kitchen towels, hosiery, sheets, everyday night gowns, and all such articles can be mangled by means of the clothes wringer. Take from the line, fold and put thru the wringer with the rollers pressed tightly together. Air thoroly and put away, thus saving hours of labor.

I will give my method of dish washing, which consumes only half the time and energy as when done in the old way, and requires no boiling of dish towels every day. The silver and glass ware are washed first in hot suds, dipped in hot, clear water and laid on a soft linen to dry. The tumblers are inverted with one edge raised so that the air will enter. The china is next washed and put edgewise in a colander and all set over a pan. Pour hot water over them and leave until dry.

When washing windows put a tablespoonful of turpentine in a basin of water. Wash with a chamois skin and they will not need to be wiped dry and polished.

THE SPICES WE USE.

BY IRMA B. MATTHEWS.

Cinnamon.

[The third in a series of five articles on spices].

Cinnamon is a spice as old as the world and valued as far as we know from the beginning, at least we find mention of it in the Old Testament, and the name has changed but little, and seems to be about the same in all languages. The cinnamon tree is a native of the island of Ceylon and grows there in all its perfection, altho among other tropical plants it has been transplanted to the West Indies, and evidently thrives there.

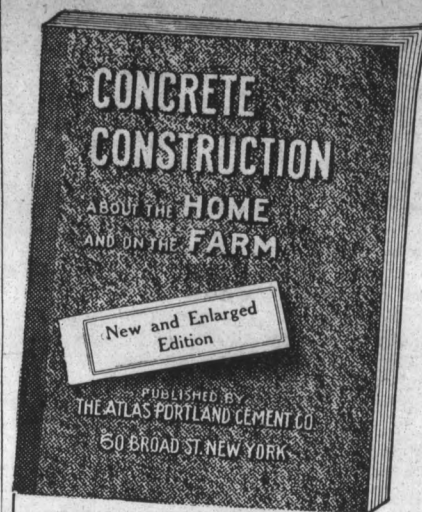
The cinnamon tree often obtains a height of thirty feet and is perhaps a foot and a half in thickness. The fruit of the cinnamon tree resembles an acorn somewhat, but it is not the fruit that becomes an article of commerce, but the bark. It is harvested to some extent twice a year, but the spring is the real harvest. I dare say, the bark peels easier at this season, than at any other, as this is often true of some of our own trees.

The smaller limbs of the trees are cut off and the bark carefully loosened until it can be removed, then it is placed in the sun to dry, when it becomes the cinnamon of commerce and is tied up in bundles and shipped.

The finest cinnamon is obtained from the younger tender shoots, or branches. The cinnamon is very fragrant and has a pleasing odor. As a spice it is well known all over the world, and is a favorite with cooks everywhere, it is much used in candy and other sweetmeats.

As a medicine it has slight tonic effects and is sometimes used as such. The oil of cinnamon is sometimes obtained from the bark, in which case the large, coarse pieces are ground and used. Otherwise it is gotten from the leaves of the tree.

The root of the tree contains camphor



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and the fruit yields an oil that in olden times was made into candles for the king. Imagine what fragrant lights they must have produced.

We are, however, often given a very inferior bark for the cinnamon, namely the bark of the cassia tree. While not nearly as fragrant as cinnamon, it has almost identically the same flavor and is often substituted for the real thing, unless one is an expert they are not likely to detect the fraud, altho they might wonder what ailed the cinnamon.

"COOL AS A CUCUMBER."

BY EMILY L. RUSSEL.

This phrase is said to be scientifically correct as investigation shows that the cucumber has a temperature below that of the surrounding atmosphere.

This vegetable belongs to the same "family," in botany, as the musk and watermelons, and is closely related to the pumpkin, squash and gourd. It is a native of Asia and was brought to England in the latter part of the sixteenth century. It forms a favorite article of food in its native country and is an esteemed delicacy in colder climates. It is generally used uncooked, but is sometimes prepared like eggplant. It is much used for pickles—the very small ones are often known as gherkins.

Massachusetts boasts a cucumber farm said to be the largest in the world. About two thousand cucumbers are cut from the cold frames every day in March, the number increasing to four thousand daily in April, ten thousand in May, and fifteen thousand every day in June. Some of these, just as an experiment, are grown to an enormous size, several feet in length, as the owner of the farm is a "cucumber crank."

Gen. Grant, who was noted for peculiar gastronomic tastes, was exceedingly fond of this vegetable, and sometimes made a meal of sliced cucumbers and a cup of coffee. Gen. Porter accused him of liking the most indigestible food; and, this article of diet very often starts what one writer calls "a three-ringed circus in the abdominal region." But when fresh, correctly prepared and well-masticated, they make an appetizing dish.

Some people are deluded into the idea that putting them in salt water for some time before the meal makes them more healthful, but it renders them slimy and tough. Slice them into very cold water, no salt, adding the salt, pepper and vinegar at the last moment, and you will find them deliciously crisp, and more digestible, altho some people ought never to eat them. It is the old rule, "What's one man's meat is another's poison."

One species of this order of plants, to which the cucumber belongs, contains a powerful drastic poison, actively medicinal. The fruit is yellow when ripe, about the size of an orange, and intolerably bitter. The extract is known as colocynth. It is chiefly in the form of dried extract it is used in medicine, and generally administered in the form of pills. In small doses it acts as a safe and useful purgative. In large doses it is a poison.

HAS THE COUNTRY SCHOOL GONE TO SEED?

Professor A. F. Nightingale, superintendent of the district schools of Cook county, Illinois, in his last biennial report, savagely attacks the conditions surrounding the children in country schools. He says in part:

"No way seems to have been found to impress upon our rural neighbors the profound truth that their children are entitled to all the available opportunities which are offered so abundantly to the children of our villages and cities.

"A teacher is hired, and a contract signed. Salaries are a mere pittance in many cases. In many districts no more than \$40 a month is paid. Take from this amount \$14 per month for board, and \$5 a month for incidentals, and there will be \$147 left as the net earnings for a year, or \$2.83 a week. Such wages are about one-half those paid the ordinary servant in a city family.

"We may visit many a farm in Illinois and find the stock sheltered, groomed and cared for with greater interest, anxiety, and pride, than are displayed in the supplying of school children with necessary accessories. I find that most of the country schoolrooms are cleansed, which means scrubbed, but once a year. As the law protects the community from criminals (I would almost say other criminals), why should it not protect the children from criminal neglect in the

schools? The responsibility for this neglect rests with country school trustees and the tax-paying parents of the children."—Mother's Magazine.

THE CONVENIENCE OF THE FIRELESS COOKER AND FOOD CHOPPER.

BY E. J. LYNCH.

The average woman is an unbeliever when she is talked to about fireless cookers. She has to be convinced by a trial that such things are possible, first, and then that they are worth bothering with. Having made and used one for almost a year, I can speak from experience. Mine is small—holds one cooking vessel. I made it out of a butter tub. I packed the sides and bottom about two inches thick with hay and tacked over the hay some old shirting to keep it in place. I made a cushion quite thick, using hay to stuff it. That is all there is to my fireless cooker. I have a deep, round enamel saucepan with a cover, and also a small enamel pail with a tight fitting cover, which I use to cook in. All my porridge has been cooked in it for the last year. I use it for stewing vegetables, fruits, meats, etc. It is fine for beans or pea soup, which require long cooking.

For things that are hard to cook, such as beets or turnips, it may be necessary to take them out of the cooker and let them boil for a minute again and put them back. It takes a little time and patience to know how to manage one, but we would not want to do without ours. It certainly saves both fuel and labor especially in the summer, when one does not want a fire all day. It is fine for cooking prunes and dried fruits.

Another utensil which is a great convenience is my food chopper. Never again will I bother with the tedious old chopping bowl and knife. I use my chopper for cutting the cabbage for salad, the onions, tomatoes, etc., for pickles, the bread for dressing fowls—in short, for practically everything that has to be chopped for the table. Bits of cold meat and potatoes are minced for hash and I find it quite a saving in fresh meat. I can buy the cheap cuts and by putting them thru the chopper can fix them so that if they are tough no one knows it.

FAVORITE CAKE RECIPES.

If you want to make some delicious little cakes that will keep, try "Her-mits." To make the hermits you will need two cups of New Orleans sugar, three eggs, three-fourths of a cup of shortening, half butter and half lard, one cup of chopped raisins, one cup of chopped nut meats, three tablespoons of sour cream, mixed spice to suit the taste, half teaspoon baking soda and four cups of flour. This makes a stiff batter. Drop spoonfuls of the batter on a buttered pan and bake in a moderate oven. Baking powder and sweet milk can be used if desired, but if the cakes are to be kept for any length of time, the soda is best.

Peanut Cookies.

When you are tired of other cookies, try peanut cookies. To make a small amount take one heaping tablespoon of butter and cream it with two tablespoons of sugar. Add to this one egg well beaten and two tablespoons sweet milk. Sift half cup of flour, half teaspoon of baking powder and half teaspoon of salt together and add this to the mixture. Lastly, add half cup of finely chopped peanuts. Drop by teaspoonfuls on a buttered tin, half inch apart. When they are ready to go in the oven, put one half of a peanut on top of each cake and bake in a slow oven.

Chocolate Cookies.

Half cup of butter, one cup brown sugar, one well beaten egg, quarter teaspoon salt, two ounces of chocolate, melted, two and a half scant cups of flour, two level teaspoons baking powder, quarter cup of milk. Mix the butter and sugar, then add very gradually the egg, a speck of salt and the chocolate and beat thoroughly. Then add the flour and baking powder sifted together a little at a time, alternating with a little of the milk. Chill the mixture, roll out thin, cut with a small cake cutter, first dipped in flour and bake quickly in a hot oven.—E. J. Lynch.

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