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\$1.00 A YEAR.
\$2.75 5 YEARS.

YEARS ago, when the pioneers of Michigan were journeying into an almost unbroken wilderness, there to build a log hut and, without aid or capital other than their hands and the rude equipment which they could bring in with them, start clearings here and there, the proposition of clearing up new land was a very different one from what it is today. The native timber was slashed and burned, logged up and burned again, and the clearing was gradually enlarged in direct proportion to the labor which father and the boys or, perchance, the younger man unaided, were able to devote to the laborious task. But these pioneers did their work well; better, in fact, than the succeeding generation, who, instead of coping with nature in the making of fertile farms where forests stood before, have too often robbed the soil of the store of virgin fertility which nature, aided by the work of the pioneer, left them as a bounty to be easily drawn upon.

But of the pioneers of those days but few remain, while the type has passed on with the frontier of improvement to renew the battle with nature and leave a further bounty for succeeding generations. True, we still have "new" or unimproved lands in abundance, but no "new" country, as the pioneers of Michigan's early days knew it. The railroad, the trolley, good wagon roads which are quickly traversed by swift moving automobiles and over which heavy loads are easily moved to market, to say nothing of rural mail delivery and the telephone, are factors which were wholly lacking in pioneer life, as were the opportunities for remunerative employment which everywhere exist to supplement the slender income of the new settler. Truly, the settler in the "newest" or least improved portions of our state can have no conception of the hardships to be met and difficulties to be overcome by their pioneer forefathers. Yet the task of clearing up a new farm seems an almost insurmountable one to the inexperienced man who considers the proposition of buying and improving a piece of wild land. In reality, however, it is not so great a task as it looks, and a brief discussion of the labor and cost involved in clearing up a new farm will not be out of place at this time, in view of the op-

Clearing Up New Land.

portunities which exist in the northern portion of our state, and the fact that the young men of our older farming communities know little about the practical phases of this problem.

Of course, the cost of clearing cut-over land will vary greatly, depending upon the lay of the land, the nature of the timber with which it was originally covered and how and when it was lumbered. If there are pine stumps on the land they will eventually have to be removed, as time will make little impression on them. But the hardwood stumps will rot out in a few years if the land is cleared and seeded, and for the greater area to be cleared it is the cheaper way to let na-

ture aid in this direction as did the pioneers in an earlier day. Probably a small area of even hardwood may be profitably stumped at the start in order to get land for immediate tillage, but much of the area of the farm may be seeded and used for pasture for a few years, when the task of clearing out the stumps will be greatly simplified. It is of the latter method of clearing new land that the writer would comment at this time, for the obvious economic reason mentioned.

There are several methods in vogue for accomplishing this desired result in the clearing of new land at a minimum of labor cost. One method is to cut down any stubs or other timber, except brush,

that may be standing and burn it over as cleanly as possible in a favorable time. Then sow grass seed, using a mixture of the clovers and timothy on the fresh burning in midsummer. The seed will be covered by the late summer or early fall rains, and at least a partial stand of these tame grasses and clovers will be secured. The land is not pastured the following season, but the grasses are allowed to mature and scatter their seed, thus thickening the stand which grows rapidly about the stumps and refuse logs, helping to hasten the rotting process by holding the moisture about them, in which there is also a beneficial reciprocal action. The next summer the brush are cut and left on the ground, and the land is pastured with cattle. In a few years the grubs will be rotted out and the brush and logs will have largely decayed, so that it will be a comparatively easy task to clean up the land ready for the plow. It is claimed by those who have had considerable experience in this method of clearing that the land can be finally cleaned up ready for the plow at a total expense not exceeding five dollars per acre, or even less under favorable conditions.

Where this method is followed it is a wise precaution to clear a fire lane about the land so treated. Where sheep are to be pastured it will probably pay to do a better job of clearing at the start, since the sheep will do better and the brush will be more quickly subdued. A good job of clearing, however, is not so expensive as the novice would think. The accompanying illustrations show new land in the process of clearing at the Upper Peninsula Experiment Station farm. This land had, like most of our hardwood cut-over lands, been lumbered several times—first for the choicest timber and last for the cord-wood. Fig. 1 shows the land as finally cleared and ready to be seeded. Fig. 2 shows its appearance after the snags have been pulled, the brush cut and, together with the refuse logs piled for burning. Fig. 3 shows the land as the lumbermen and wood cutters left it. As will be noted this land is in condition to permit the harrowing in of grass seed, of which a mixture including the clovers, alfalfa and timothy will be sown at once and should make a thick stand for next year's pasturing. The stock, and particularly sheep,

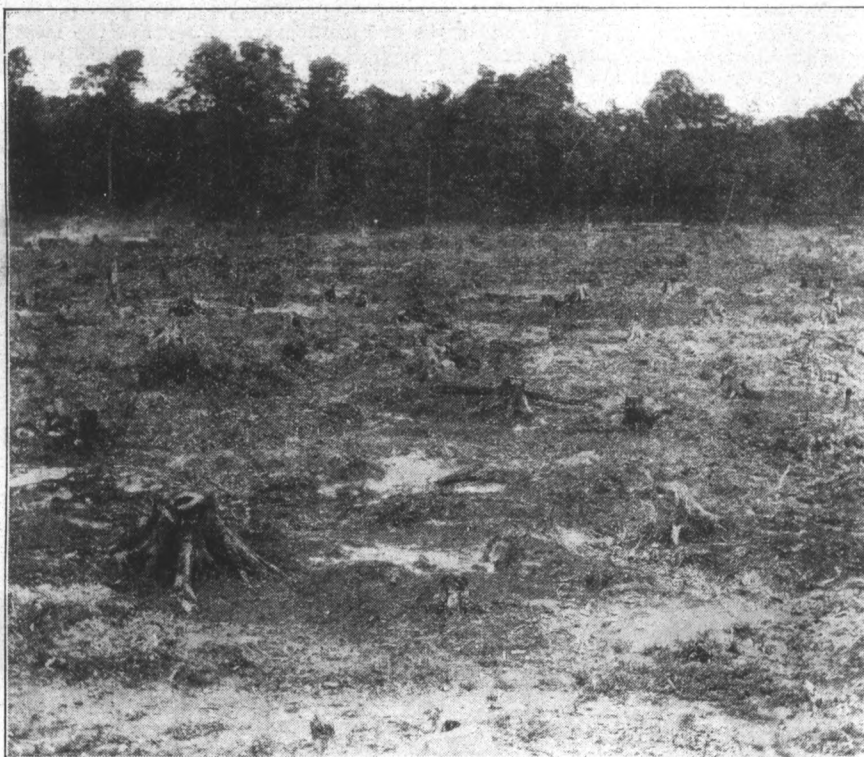


Fig. 1. Hardwood Land Cleared Ready for Seeding at a Cost of \$7.50 per Acre.



Fig. 2. Snags Pulled and Piled with Brush and Refuse Ready for Burning.



Fig. 3. The Wild Land as the Lumbermen and Wood Cutters Left It.

which will be run on this land next summer, will thrive on the excellent pasture and will at the same time browse off all sprouts which may start, thus making the first cost the total expense of clearing the land, excepting the removal of the stumps when they have become partially decayed, which will take but a few years. In the meantime this land will afford the best of pasture for live stock and will thus pay good interest on its value and the cost of clearing. This clean job of clearing was accomplished, under the direction of field agent W. F. Raven, with the rather inefficient labor available at a cost approximating \$7.50 per acre.

Thus it will be seen that it is not very costly to do a first-class job of clearing on cut-over hardwood land. The first cost of clearing on pine land is cheaper still, although the cost of stumping is considerably greater, depending on the size and number of stumps per acre. But the task of clearing up a new farm is in no way comparable to the task accomplished by the early pioneers, while the reward is much greater, for which reason no young man who is ambitious to have a home of his own on the land, where he can gain a comfortable competence in addition to a livelihood should hesitate on this account to improve some one of the thousands of opportunities open to him to secure good wild land at a nominal price in the good old state of Michigan.

FARM BOOK-KEEPING.

We are endeavoring to conduct our dairy farming in a practical way to ascertain if possible, the exact gain or loss. We have opened accounts with cows, hogs, farm products, horses, general expense, etc., charging these respective accounts with money expended. We have not, however, charged cows with all feed, only what feed was purchased. Now is it not possible to charge all feed grown and purchased and credit fertilizer, etc., and all value yielded, to these different accounts? How could one determine the value of work done for the year by the horses, and by the persons engaged in the work? We realize that farm book-keeping is not similar exactly to other commercial enterprises, and yet when one puts a day's work on the farm is he not selling his labor the same as the man in the shops? Why should he not be credited with that work and charged with all he takes for his personal use? Would you consider that March 1 was better to close the year with than January 1? We would appreciate a thorough discussion of this subject.

Ingham Co. S. B.
The idea of keeping an account with the different kinds of live stock is to be commended. We would know very much more about the profits in farming if more farmers would keep accounts. But while we are beginning to keep accounts with the dairy herd and with the hogs and with farm products we ought to go a little bit farther and keep accounts with each crop raised. Then we will know something about what it costs to raise clover hay or a bushel of corn, or a bushel of wheat. We can sit down and estimate that a man will do so much plowing in a day for wheat, it will take him so long to prepare the land, it will cost so much to sow wheat, and it will cost so much to harvest the wheat, but this is only an estimate. If one would charge every day's work to the wheat field when it was actually done, at the market price of the labor for both man and team, then when he threshed his wheat and placed it upon the market he could tell something about the actual cost. If he will keep this up year after year the average will be much more accurate than much of the information which we now have with regard to the cost of growing various farm products.

Certainly the cows ought to be charged with the feed produced upon the farm just as well as the feed purchased. You won't know anything about how much profit you are making out of the herd unless you charge them with all the food that they consume and the labor necessary to care for them. Not only this but you ought to charge each cow separately for the feed which she consumes and give her credit for the milk which she produces. Our cow testing associations, which, by the way, are modeled after the Danish Cow Testing Associations, work this problem out correctly and at the end of the year the farmer not only knows what all cows in the entire herd are doing but he also knows what each individual in the herd is doing, and by knowing this he can eliminate from year to year the most unprofitable and most undesirable cows from the herd and gradually by this very best plan of selection improve the money making power of his herd. It is not as much trouble to charge the cow with the food she consumes as the average farmer thinks. You don't have to weigh every meal that you give

the cow. The feeder knows just about how much hay he gives each cow. Now you can take that amount on a fork by itself and weigh it and then charge the cow with the amount she consumes. If you charge feed then weigh the new ration and charge that to the cow as long as she consumes that ration. The same way with the grain. Or, the grain can be weighed to each cow. We have a rule on our farm for instance, to give each cow as many pounds of grain per day as she produces pounds of butter-fat in a week and the grain is actually weighed to the cows.

The only way to keep track of the work which the horses do and for which they can be given credit one must charge the work actually done when it is done to the crop. For instance, the farmer must sit down every night and carefully think over what has been done during the day and make a note of it. If the team has worked all day plowing for wheat, then charge it to the wheat field at the market price for the team's labor. If you could get \$3.50 or \$4.00 for the use of the team if you worked for someone else then it ought to be worth that much if you worked for yourself. If the team works a half a day on the wheatfield and half a day cultivating corn then charge the exact amount of time employed in the corn to the corn field, and so on. It will be found that during the year there are a great many days when the farm team doesn't earn anything, but they have to be fed just the same, and the horses should be charged with their food just as well as the cows. It isn't necessary in this case to charge each horse with the food which he consumes as it is with the dairy cow, but it can be charged in a lump sum, and this is not a very difficult thing either. For instance, one puts so much hay into the horse barn to feed the horses. You can estimate carefully, or near enough anyway so that you can be safe in making an estimate of the amount of hay the horses consume and the same way with the grain which is fed, and charge it to them at the market price. Give them credit for the work they do and see how much it costs to keep your horses and how much benefit they are to you.

It certainly is possible to charge each crop with the amount of labor actually performed in producing it and to give it credit for the amount of grain produced and charge this grain as forage to the animals which consume it at the market price, to give animals credit for the manure, and keep a regular system of books upon the farm. Very few farmers do this because, as I say, you have to sit down every night and carefully look over the day's work and make a memorandum of it, then it should be entered upon a day book journal and finally posted into a ledger. At the end of the year the accounts have got to be worked out into ledger balances and finally posted into profit and loss, and a regular system of book-keeping kept, but it can be done, and it would pay to do it because we would learn more about the cost of producing crops.

You are right in thinking that if a farmer works a day digging potatoes he ought to have pay for it just the same as if he employed a man to do it, or if he works at anything else he ought to get his pay for it and charge it up to the crop. One reason why farmers raise things so cheaply and make so much profit out of them in farming, is because they do not charge up their labor to the crop.

Of course, if a man is willing to work for nothing in farming then the profits will be greater, but if he would have to hire men and pay them, then he ought to at least charge up labor wages for what he does himself.
With regard to the end of the fiscal year in farm book-keeping. We have our fiscal year end the first of May because at that time it is less work to take inventory of the feed on hand. There is very little hay, as a rule, to estimate at that time, the corn silage is at the lowest ebb, we have turned off the majority of stock that we have for sale, and the taking of the inventory is reduced to a minimum. Now it doesn't make any difference whether you have the fiscal year end the first of May or the first of January so far as your book-keeping is concerned, and it is less work to have it end in the spring than in the fall. If you have your fiscal year end the first of January see the amount of roughage that you would have to estimate to make out your inventory. It would be a much more difficult task than to take the inventory in the spring, and it might just as well be taken in the spring as in the fall.

COLON C. LILLIE.

INOCULATION PROFITABLE.

I am enclosing two plants of alfalfa taken from a field I am cutting today, (July 25). The larger, healthy looking plant was taken from the part of the field inoculated with sweet clover soil and the smaller, yellowish one from the other half of the field which had no inoculation whatever. The plants are typical and show conclusively the benefit of inoculation.

The two parts of the field had the same identical treatment and were seeded on August 16, 1911, with nurse crop of rye, three pecks per acre, the rye being cut June 10, 1912, for hay. The line between the inoculated portion and the other is so marked that unless closely examined one would think that there was nothing sowed on the portion not inoculated.

My reasons for not inoculating the whole field were lack of time and the fact that I could discover no nodules whatever on the roots of sweet clover where I was getting the soil, and it looked as though I was wasting time. The results show, however, that I was not, and hereafter I will inoculate in some manner if it "takes a leg." I hope this may help some others.

Hillsdale Co. E. E. LINTON.

The specimen from the inoculated portion of the field was more than 18 inches in height and of the thrifty, dark green color which is characteristic of inoculated plants. The other was a puny stalk, less than half as long and lacking in the luxurious green color of a normally nourished and healthy plant.—Eds.

FARM NOTES.

The Grasshopper Pest.

It is up to you to tell me how to get rid of grasshoppers. They are the most destructive pest that I ever ran up against, they have destroyed almost every plant that I have attempted to raise, such as alfalfa, corn, beans and buckwheat. They are now busy with my rye and wheat. What can I do with them? Please let me have your valuable assistance. I don't mind the expense but must do something.

Benzie Co. S. W.
It is not an easy matter to eradicate the grasshopper pest under even favorable conditions and it is a rather hopeless task for one farmer to rid his farm of these insects unless there is neighborhood co-operation to that end. Fortunately, however, these pests thrive for a season when their natural enemies reduce their numbers and they are kept in subjection until another outbreak, perhaps for years.

Probably one of the most efficient means of reducing the number of grasshoppers is fall plowing of sod ground as an old sod is a favorite breeding place for grasshoppers. The mature insects deposit their eggs in a pod-like cover an inch or so beneath the surface of the ground where they lie over winter, the small grasshoppers emerging in great numbers in the spring under favorable conditions. Fall plowing of the sod ground therefore is helpful as it disturbs the cocoons or pods in which the eggs are deposited and a large proportion of them will be destroyed by the action of the elements over winter. However, as fence rows and roadsides are ordinarily utilized as breeding grounds by the grasshoppers it is pretty difficult to make a thorough job in the extermination of the pests by this means.

Various other devices have been used, of which two may be profitably mentioned. The first of these was tried by the writer a number of years ago when grasshoppers were very plentiful in his neighborhood. This device is known as a hopperdozer and has been very extensively used in the west. A shallow sheet iron pan or trough two or three feet wide and as long as convenient, say the length of a fence board, is mounted upon a light frame and at the back side of this a canvas screen some three or four feet high is placed in a vertical position. Kerosene oil is placed in the pan, preferably on a piece of old carpet or blanket and a horse is hitched to the device, or one at each end, and is driven back and forth through the field, the theory being that as they are scared up from the ground the hoppers will fly against the screen, drop into the pan or on the saturated blanket and die from the result of contact with the kerosene oil. While this method probably is useful where the pests are sufficiently numerous, the results in the cases where the writer has seen it used were not altogether satisfactory.

Another method is to use the poisoned



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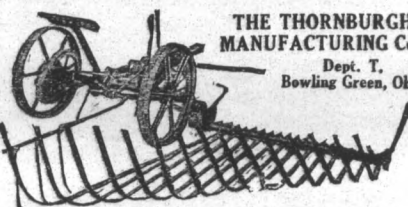
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bait which is claimed to be efficacious in getting rid of the pests. A bait known as the Griddle mixture was tried out a year ago by the superintendent of the Upper Peninsula Experiment Station with good results. This mixture consists of one pound of Paris green, two pounds of salt, two pails of water mixed with 50 lbs. of clear horse manure. A shovelful is deposited every four to six square rods, but it is found to be more effective when deposited on the dry sandy knolls. It is said by those who have used this poisoned bait that one application is sufficient to rid a field of these pests effectually.

Vetch as a Forage Crop.

I have a field that is in corn this year. I would like to get a crop of hay from it next year and also get it seeded to clover. Would you advise me to sow a mixture of rye and winter vetch in the corn and cultivate it in, then seed it to clover in the spring and cut the rye and vetch for hay? How much of the seed should be sowed to the acre and when should it be sowed? D. G.

A mixture of rye and sand or winter vetch will make a fairly good forage for hay next season. It should be sown at the rate of 30 to 40 lbs. of vetch with a half bushel of rye per acre, preferably by the middle of August. As to the probable success of seeding clover with this crop the writer has no knowledge. Generally it is not used for this purpose, but rather as a crop for green manure for which it is excellent. So far as the quality of the hay secured is concerned it might be better to sow this field to oats and peas early in the spring and plow and seed the clover as soon as the hay is off next year without using a nurse crop. However, the experiment of seeding clover in vetch and rye would be interesting and should a trial be made we would be glad of a report of the results for publication in the Michigan Farmer.

Crimson Clover.

I have a corn field which I would like to put in corn again next year. Not having enough manure to cover all the ground I wish to plant, I was thinking of sowing crimson clover and plowing it under for manure. I have never grown any or seen any so I don't know much about it. Would it be all right to sow it in the corn this fall, or sow it early next spring as soon as the ground would do to work? Would it grow large enough to plow under by May 15? If sown in the fall will it winter-kill? Also, I have a field I would like to sow to alfalfa. I was thinking of sowing lime on this fall and then fall plow it and top-dress with manure this winter. What do you think of this plan? Would you sow with or without a nurse crop? R. H.

Further south crimson clover makes a very desirable catch crop when sown in corn, but in Michigan it has not proved very dependable. The writer has seen excellent stands of crimson clover sown in corn, but the stand was no better than that of the common June clover sown in corn at the same time, and the growth was not as great. Thus, considering the uncertainty of crimson clover wintering well in our climate, it is not a safe dependence for a catch crop if sown in the fall and it would not get sufficient size to add any considerable amount of humus or nitrogen to the soil if sown in the spring. This is an exceptionally favorable season for seeding in corn, however, and it might be advisable to sow June or Mammoth clover to be plowed under in the spring, as proposed. Or the field might be sown to rye and this plowed down to supply vegetable matter in the spring, or to rye and vetch, which is a leguminous crop and would add nitrogen as well as vegetable matter to the soil. It is better, however, to experiment with a new crop on a small scale at first, depending upon those with whose habits of growth we are well acquainted until we have determined just how the new crops will thrive under our local conditions.

Liming for Alfalfa.

The plan outlined for seeding alfalfa is undoubtedly a good one, except that in the writer's opinion it would be better to apply ground limestone after the field is plowed this fall so that it may be well mixed with the surface soil in the process of fitting. If handled as outlined in this query, it would probably be better to sow the alfalfa without a nurse crop, as it would be essential, if the field is top-dressed with stable manure, to give thorough tillage during the early spring in order that the weed seeds contained in the manure might have an opportunity to germinate and be destroyed before the alfalfa seed is sown.

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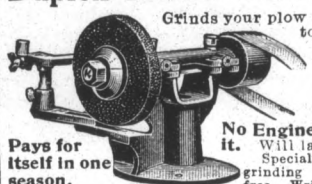
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LIVE STOCK

FEEDERS' PROBLEMS.

Feeding a Calf for Baby Beef.

Can you tell me the best ration to feed a five-weeks-old calf to make him develop into as large a beef as possible? I have a calf five weeks old that was born a kind of freak, that is, extraordinarily large proportioned. I've been feeding him nothing but two quarts of fresh milk and four quarts of separator milk at a feed twice a day, and it is wonderful the way he is developing. Now my curiosity is aroused to make a record breaker out of him. Any information you can give me as to how I should care for him until maturity would be greatly appreciated. Is there anything to put in separated milk that will give the same results as fresh milk?

Leelanau Co.

F. J. B.

While there is no feed that will quite take the place of fat in whole milk for the growing calf, a fairly good substitute is available for feeding with separated milk in flaxseed meal, that is, meal made from the whole flaxseed, not oil meal from which the oil has been extracted. If a small quantity of flaxseed meal is boiled up and made into a jelly and say one-quarter of a pint is added to the milk fed at the start, this amount being gradually increased as the amount of milk fed is increased, it will provide a near substitute for the nutritive ratio of whole milk. Corn meal can be gradually substituted for this feed when the calf is from six to eight weeks old, and this with the skim-milk will provide a fairly well balanced feed.

Later, as the milk supply is diminished, other grain should be used with the corn, such as oats and oil meal with some bran to give variety and bulk to the ration and maintain its proper balance. Liberal feeding of a properly compounded grain ration with plenty of succulent feed and good hay after the pasturing season is over will accomplish wonders with a thrifty calf.

Most feeders do not appreciate the amount of grain that a good thrifty, growing calf will eat. The writer once fed a carload of calves that weighed in at 540 pounds each. These were calves that had been raised on cows and had not lost their calf flesh at any time. They were fed for a period of five months making an average gain of over 300 pounds each and an individual gain of as high as 400 pounds. When on full feed these calves consumed a grain ration of 16 pounds each, including a portion of dried beet pulp with the grain.

The skill and judgment of the feeder should be used in fattening a young animal as only by this means can the best results be obtained. There is a great difference in individuals, and this calf being a sufficiently good "doer" to have been noted as an exception doubtless has the ability to consume more than the average amount of feed and convert it into body tissue. As an illustration of what may be done along this line the writer once noted an exceptionally thrifty lamb in his flock when the lamb was about three weeks old. As a means of determining what the limit of gain might be in a thrifty lamb this lamb was given every opportunity to make a rapid growth and reached a weight of 150 lbs. at 150 days old. Where one wants to make a record in the growing of a young animal the feed should be liberal without overfeeding at any time, requiring a nice discrimination on the part of the feeder.

Wheat as a Ration for Working Horses.

Please advise me what I will have to feed in connection with clover hay and ground wheat to form a balanced ration for horses.

Mason Co.

C. D. K.

In an experiment conducted at the North Dakota Experiment Station to determine the comparative feeding value of wheat for work horses, it was found that horses did nicely on the ration consisting of two parts of ground wheat and one part bran with prairie hay. It was found that wheat, being a concentrated food, needed about this amount of bran with it to make it loose and cooling enough for the digestive system of the horse. When so fed it was found that horses did equally well, or better, than horses fed upon oats as an exclusive grain ration. Slightly less bran would be required where the wheat was fed with clover hay, which contains more protein, although with horses at medium to heavy work this proportion would be none too great. Ground wheat is a rather sticky feed unless bulk is added to it by the use of bran as above indicated. If the grain is fed on cut feed this neces-

sity of adding bran to make it more bulky will be largely obviated, when the bran could be substituted by a small quantity of oil meal to good advantage. Or one-half the bran could be eliminated and make a fairly well balanced and efficient ration.

IMPORTANCE OF VITALITY IN LIVE STOCK.

A great many farmers and breeders in their desire to breed animals for a special purpose, whether that purpose be the production of milk or beef, are apt to forget the necessity of maintaining the vitality of the herd, until they are reminded by the spread of disease that nature herself is interfering with their operations and wiping out the weaklings. Hence, I think it can be stated as a fact that highly bred animals seldom have as much vitality as grades or even scrubs.

The reason is obvious. If we have in our mind a certain type of beef animal and use for breeding purposes only those that approximate that type, and especially if we attach undue importance to minor points, such as color or style, we naturally lose sight of the vitality and retain weaklings in the herd because of desired qualities. Nature permits this for a while; but sooner or later she enters her protest by the introduction of some disease which kills off the weaklings.

In other words, if we develop an animal to an extreme in any direction, we are likely to overlook their robustness of constitution, that abounding vitality which nature demands for the perpetuation of the species. The law seems to run through all sorts of live stock. The phenomenal dairy cows which startled the world with their performances are nearly all short lived. Hogs that have been bred until the curve of the snout, the break of the ear and the kink in the tail are in the height of fashion, are very apt to produce small litters; just as cows that have been bred to the extreme of beef type often need some common sort of a cow to help them raise a calf.

If we are to succeed in breeding any sort of live stock or grain, we must, above all things else, maintain the vigor or vitality of the stock, or else eventually be defeated in our purpose. These are the limitations under which the breeder is obliged to work. If we cannot attain to the ideal perfection of beef form and milk production and still retain vigor of constitution, we had better retain the vigor of constitution and get as near perfection as we can with strong vitality. For what is the cow worth, the hardest working animal on the farm, if she had not that ruggedness of constitution that will enable her to turn out the maximum of milk from a given amount of feed? What is the steer worth if he has not the vitality to turn grass and grain into beef and profit? What is the brood sow worth, however lovely she may be in form and figure, if she cannot farrow more than three or four pigs and supply their apparently insatiable appetites?

In the last hundred years wonderful advancement has been made in the breeding of live stock. There is no necessity to revert to the wild form, provided we use only vigorous sires and dams, and then furnish an environment in feed and shelter that will enable them to maintain that vigor.

Illinois.

W. H. UNDERWOOD.

HANDLING THE FLOCK.

When my lambs are taken away from the ewes, the latter are always put in rather scanty pasture or given the run of a stubble field for a short time, so as to dry up their flow of milk as quickly as possible. Of course, the ewes, if they have done well with their lambs will be rather thin in flesh by this time, but my experience is that it is not safe to feed much grain until they are dried up.

When the lambs have just been weaned, they require the best possible care and need good pasture. Also, I always find it best to separate the ram lambs and the ewe lambs. When allowed the run of the same pasture the ram lambs will annoy the ewes and gains will be unsatisfactory. The wether and ewe lambs in my flock are allowed to run together.

In the case of the breeding ewes during the late summer and fall it is very important to make provisions for some kind of green fodder to supplement the pastures. The condition of the breeding ewes at breeding time has a marked influence upon the succeeding crop of lambs. If the ewes are improving in

flesh and in a vigorous condition, the chances are bright for a choice lot of strong lambs. I have found it much easier to get the ewes in the proper condition during the early fall months than at any time later, and it is also true that when once in that condition they are in better shape to withstand the attacks of disease common to sheep than when allowed to go into winter quarters in a run-down condition.

My lambs that are to be retained for breeding purposes are not fed much corn, as corn tends to fatten them, rather than to give them the desired growth and development for breeding purposes. In feeding lambs, or in fact, any young animal, I have found it more practical and productive of better results, to feed them two or three times a day and in small amounts at a time than to allow them to have all they will eat at any one time. Bran, oats and oil meal added to the ration will make a better ration and one that is more satisfactory to supply the needs of growth and development for breeding purposes.

Thirty-six pounds of sheep manure is equal as a fertilizer to 100 pounds of ordinary farm manure, being richer in nitrogenous elements than that of the cow or horse, and richer in the phosphates than the droppings of the fowl. Then why will farmers neglect to always keep a few sheep.

Sheep are also very powerful digesters, destroying the vitality of all weed seed, not like cattle scattering foul seed behind them, while from the foods eaten they get more nutriment than any of our other animals. Every man with 50 acres or more should keep a small flock of sheep.

Illinois.

R. B. RUSHING.

BEGINNING RIGHT WITH SHEEP.

As I have been a reader of the Michigan Farmer for some time and interested in it and in sheep, I will give my experience with sheep. I have kept sheep intermittently for many years. The reason for this was that I did not start right. I would buy someone's old culls as foundation stock and, before I would get a flock started, would lose nearly all of them, and away they would go for what I could get for them. But two years ago I bought 12 Shropshire lambs. The first year I did not get any lambs, but last year I raised 14 lambs, and sold from the 12 ewes and the ram, wool, and lambs to the value of \$88.22, and kept three of the best ewe lambs for breeders.

I think that if a man starts right and stays in the game, there is money in sheep. My 12 ewes and ram cost me \$65 to start with.

Kalamazoo Co.

A. M. OSBORN.

CO-OPERATIVE ANIMAL BREEDING.

In discussing the economic aspect of the work in co-operative breeding, Assistant Secretary Hays, of the Department of Agriculture, said in a recent interview:

"Co-operation in animal breeding, as in other forms of country life co-operation, is a direct aid to the retention of the family farm, making less need for large farms and the consequent landlordism and peasantry of the people. Co-operation in testing and weeding out the ordinary herd used for production, in owning male animals, and in improving pure-bred families and breeds will enable farmers to delegate to collective management those things which the individual farmer can not well do for himself. If properly organized under suitable co-operative relations with the state and federal departments of agriculture and encouraged by suitable laws, the hereditary values of our breeds of live stock can be improved much more rapidly than if left to individual effort alone.

"There doubtless are at stake some hundreds of millions of possible added profit from the application of scientific knowledge of animal breeding in the United States alone. Private breeders could do even much more than now if the scientific breeding of animals were taken in hand by public agencies co-operating with a selected portion of the breeders of each class of live stock. There will be developed a class of technical public workers as superintendents of co-operative breeding enterprises, as well as investigators and teachers, who will so develop the science and practice of breeding that all private breeders will better know how to improve their stock, and will be better able to make profits from supplying superior breeding stock to the farmers who grow live stock products."

Washington, D. C.

G. E. M.

LIVE STOCK NOTES.

Thin hogs and grassy sows have been arriving in large numbers at the Chicago stock yards, as well as at other markets of the west, and they will increase in volume as the season advances, this being the rule yearly. Buyers always discriminate against them severely, owing to the well-known fact that they make a very poor showing when placed on the hooks. It is always an easy matter to detect grassy stock, and it must be sold strictly on its merits, which means a liberal discount from prices paid readily by the packers for corn-fed offerings. The spread in prices between thin grassy and choice fat corn-fed hogs has been widening out for some time past and may be expected to reach as much as \$1 per 100 lbs. shortly, with grassers already comprising a substantial percentage of the daily offerings. The indications for the future hog market seem to be sufficiently bright to warrant farmers in longer feeding of their well-bred brood sows. Corn fed to them should make good returns. There can be no excuse found for marketing thrifty shots or pigs, and farmers who do so will regret it later on.

D. W. Raymond, secretary of the Montana Stock Growers' Association, reports conditions over most of the range country as highly favorable, so far as his information goes. Late rains over an extensive area have kept the grass green, and that will tend to holding cattle longer than usual. He does not look for shipments of range cattle from Montana before the middle of August, and he inclines to the belief that Chicago will receive from Montana 90,000 cattle, or about 25 per cent less than last year. He says that during the month of April 500 new brands were recorded. This does not mean a new recording of old brands, as provided for by recent legislation, but as showing that number of new herds has been established. Mr. Raymond is sanguine enough to believe that Montana is going to return to its former liberal proportions of cattle, and awards probably five years to bring this about.

Leonard R. Warner, popularly known as "Uncle Lem," the oldest man in the live stock commission business at the Chicago stock yards, died recently shortly after his 95th birthday. He was born in Troy, N. Y., and made the first shipment of live stock over the Northwestern Railroad.

The demand for feeder lambs continues extremely large at the Chicago stock yards, and since the season began they have had a great advance in prices, but it should be remembered that the class of feeders sold now shows a great advance in average quality over those sold at the start. The first lambs were mostly undesirable natives, many of which came on the market in a half-starved condition, while now there are fair numbers of desirable western range feeding lambs, as well as fair supplies of wethers and yearlings on the feeder order furnished by the range country. Far more feeders than have been offered on the market could have been sold to sheepmen, and there has been considerable competition between intending purchasers to secure the choicer lots. Packers have been calling for the light sorting of the range lambs, and in addition they have taken the big share of the second cuts, paying higher prices in many instances than the lambs would have commanded as feeders. Further advances in feeders are quite probable.

Wm. Hoult, an expert cattle feeder of Illinois, marketed 31 grade Shorthorn steers at Chicago on a recent day at \$9.70 per 100 lbs., their average weight being 1,591 lbs., including one stag. Not since 1870 have cattle sold at a higher price. These cattle were bought as feeders in Chicago during last September and November at an average price of \$5.90, their average weight at that time being 1,050 lbs. When sold they weighed 16 lbs. per head more than when they left home. The steers were on full feed since the middle of last November, and their ration was ear corn and fodder up to March 1 and then ear corn and clover hay to July 1. When the clover hay gave out the roughness was changed to timothy hay and straw. Mr. Hoult described these cattle as the tail-ends of 64 head. He retains the remainder in his feed lot, and said that they are heavier in weight and better in flesh than those recently marketed, as described above. The previous highest price Mr. Hoult ever received for cattle was \$9, at which figure he marketed a consignment of cattle in Chicago last October. The recent shipment grossed when bought last autumn a little above \$62 per head, which compared with a little over \$154 per head when marketed, showing a selling margin of \$92 over first cost. They showed the fine gain of 541 lbs. over their average weight when placed in the feed lot.

Argentina is experiencing such an increased demand from other countries for its beef that the packing companies of the country are slaughtering cattle at a rate that exceeds the yearly increase of the herds. According to reports from Argentina, the only way that the cattle industry can be increased is legislation looking to the curtailment of the number of cattle slaughtered.

There has been a sharp demand in the Chicago sheep market of late for good breeding ewes for shipment to various parts of the country, including Kentucky, Maryland and Virginia, as well as such states of the middle west as Ohio and Michigan. Unfortunately for intending purchasers, not many ewes are coming to market that are well suited for breeders. There is a good demand for young western breeding ewes throughout the country, and it is observed that buyers are willing to pay very much higher prices for these than for natives, realizing the important fact that stock from the western ranges is the healthiest almost invariably.

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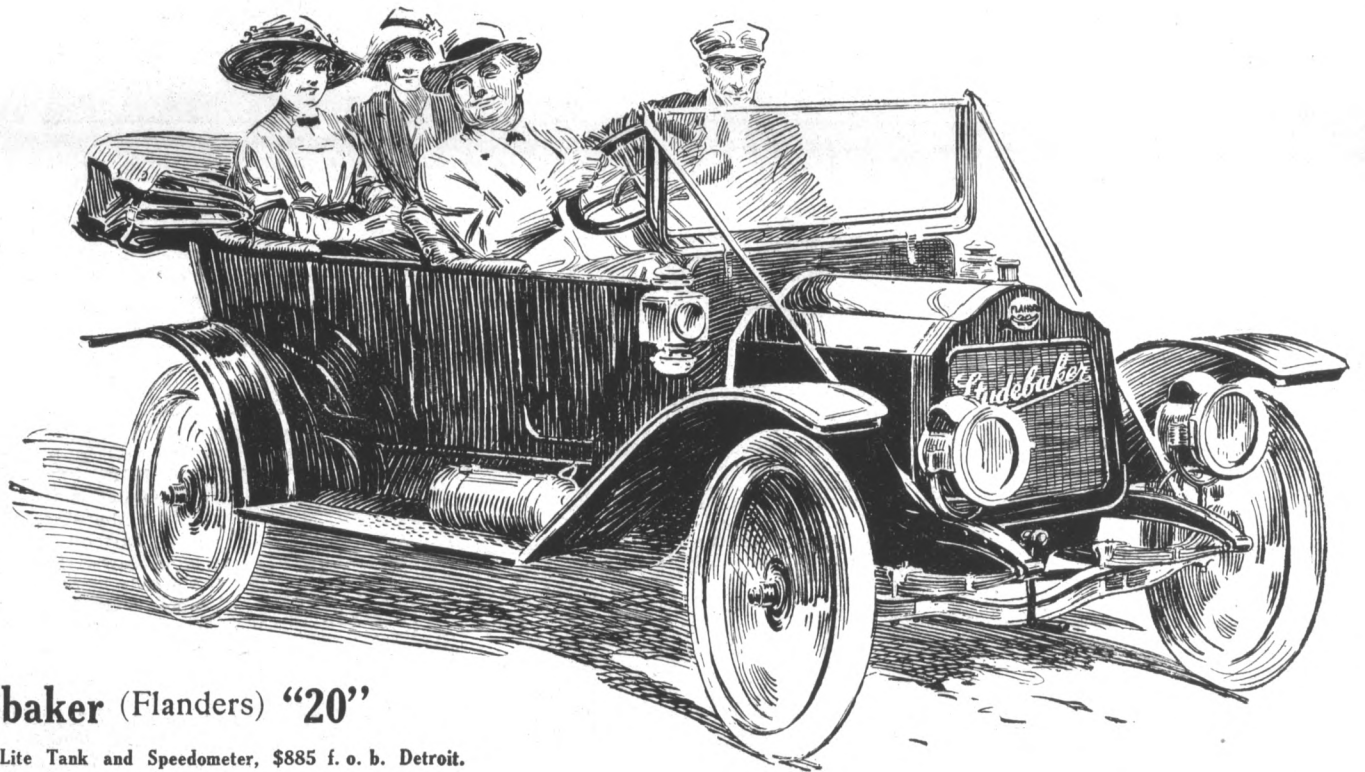
It is these facts and our tremendous output that make it possible to build a car of such a high standard at such a low price.

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The Studebaker Corporation - Detroit, Mich.

CORN SILAGE MAKES HIGH-QUALITY BEEF.

The past season has seen more silage beef on the market than ever before, as the feeder has recently taken up the silo.

It is indeed high time that the beef producer was getting wise to the silo. Long years ago silage was demonstrated to be an economical food for the production of meat, but for some reason it was not taken up by the feeder, but old methods were pursued until the high prices of stock food demanded either a change of feeding or a giving up of the business. It required some severe losses to teach some of the feeders the way of the silo.

The following records have been noted in the market reports and will serve as evidence to prove the statement above mentioned. We find a record of some two cars of steers sold by a party at DeKalb, Ill., early in June, on the Chicago market for the fancy price of \$9.40 per cwt. These steers were fed largely on silage for their roughage. About the same time is another record of yearling steers that sold for \$8.35. These were fed on pea silage, which was the waste product of a canning factory. From the Kansas City market we have the following record of silage-fed steers: Fifty-eight head were marketed by Mr. Jess Monroe, at Kansas City, at the market topping price of \$8.70 per cwt. Mr. E. P. Miller a few days later sold on the same market two cars of steers for \$8.85. These were fed principally on corn silage and cottonseed meal and were the top prices for that day and season.

The South Omaha market was topped early in the spring by Butterfield & Son, on a fine lot of steers fed principally on corn silage and bringing \$7.90 per cwt.

On the Kansas City market in May we also have the record of a bunch of young heifers selling for \$8.35, this being the top price of the day and representing a splendid profit to the feeder as the heifers were fed principally on corn silage, cottonseed meal and a little alfalfa.

There are numerous other records similar to these, but it is sufficient to say that the very best of beef can be made by the use of silage, and we also know that we can save from \$1.75 to \$2.25 per cwt. on the cost of producing beef by the use of the silo.

With this record it seems astounding that any feeder will delay and run the risk of actually losing money in the business. With the man on the farm who is feeding a carload of his own raising, his silo comes largely as a means of saving that part of the corn crop which usually is wasted. This year we have a large percentage of very late corn which is in grave danger of being ruined by an early frost. In the face of high-priced hay, and a shortage of feed, it is indeed a foolish man who will delay the matter of equipping his farm with a silo. Some feeders imagine the silo is a new thing, untested and doubtful in its practical use. It may be new to them but it is really very old. For many years in this country the silo has been sufficiently used, not only by the dairymen, but also the feeder. On our own farm 26 years ago, we fed successfully a carload of steers on corn silage, cottonseed meal and oat straw. Many of the experiment stations have had silos 25 to 32 years, and have published the results of their favorable findings.

Prof. H. M. Cottrell, for many years head of the Agricultural Department at Manhattan, Kansas, has recently called attention to what he calls "The Billion Dollar Waste," pointing out that the present method of wasting the cornstalks and leaves is one of the crimes of the age, and totals up in the aggregate a fearful waste of splendid food.

The general use of the silo will not only come as a great conservator of stock food but will also make cheaper meat possible and give the producer and stock feeder a bigger profit.

Nebraska. A. L. HAECKER.

Great numbers of steers that have been running on grass have reached the Chicago market in poor shape, whereas a longer holding and fair quotas of corn would have put them in good condition for the beef trade. These steers were salable only at extremely large discounts from prices paid for fat beefs. It has been estimated that the number of cattle that are being fed corn on grass in Ohio, Indiana, Illinois, Iowa and Missouri is not more than half as large as a year ago. Only two states, Kansas and Oklahoma, are reported to have normal supplies of grass-fed cattle, and the northwestern ranges, as well as Canada, are seriously short on cattle. It is stated however, that the Sand Hill region of Nebraska is going to market a normal supply of beef cattle.

VETERINARY

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

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

Elbow Abscess.—I have a two-year-old filly that we are breaking which has shoe boil or capped elbow. Please tell me what will remove enlargement. R. B. H. Morenci, Mich.—Elbow bunnies are generally caused by bruise of some kind. Foment with hot water or apply cold water and also dissolve 1/4 lb. acetate of lead in 1 gal. water, adding 1/2 pt. tincture arnica and apply to elbow four or five times a day.

Indigestion—Diarrhoea.—I have a two-year-old heifer that came fresh last spring; she gave seven or eight quarts of milk at a milking until about three weeks ago, when she commenced to purge and now she gives about three pints twice daily. She has a good appetite and looks well. W. H. C. Alanson, Mich.—Give your cow 1 oz. ground gentian, 1 oz. ginger and 1 oz. bicarbonate of soda at a dose in feed three times a day. In addition to her grass ration she should have grain twice a day.

Laryngitis.—I have two heifers that are troubled with cough, which I first noticed about the middle of June. They are running on June grass and low-land pasture, drink mostly at a small stagnant stream, although they have access to good water. They are smooth and in good order, give a good flow of milk and aside from the cough, are in good health apparently. The cough is short and rather sharp and they usually cough after some exertion. A neighbor's heifer turned in this pasture the 18th of June, commenced coughing about July 1. C. S. H. Plainwell, Mich.—I am inclined to believe that they cough as the result of an irritation of throat. Apply one part turpentine, one part aqua ammonia, and four parts olive oil to throat once a day and give each one 1 oz. powdered licorice at a dose in feed twice a day, if it is convenient for you to do so.

Lumbago.—I have a bunch of Yorkshire shoats that will weigh about 125 lbs. each; they are about 3 1/2 months old. When one of them was about 10 weeks old, he occasionally would cripple in back and seemingly have trouble moving hind quarters, but soon recovered. This trouble passed away and did not return until a few days ago. I might add that two or three of them have shown stiffness in hind quarters and I have been wondering if this is a contagious ailment. Have been feeding them separator milk, soured and mixed with corn, also fed them some hog meal. C. B. Fremont, Mich.—More can be done for them by changing their feed than by drugging them. Discontinue feeding corn and feed food with a greater per cent of protein. Oats and the hog meal that you speak of should be a good food for them. Their bowels should be kept open and this is best done by letting them eat green food.

Worms—Tumor on Jaw.—I have a litter of fair-sized shoats that are troubled with worms; besides, two of them have bunches on jaw. I am feeding equal parts of corn meal and middlings with some oil cake meal, all cooked and fed while in the fresh state. A. J. P., Grass Lake, Mich.—Mix together equal parts ground ginger, gentian and powdered cinchona bark and give each hog a teaspoonful at a dose in feed twice a day; besides, salt them well. You are feeding them a fairly good ration.

Diseased Bone.—I had my cows dehorned last spring and all the wounds healed except one. A pipe formed from which pus discharges, and our local Vet. who did the dehorning has occasionally dressed wound without obtaining satisfactory results. H. P. Webberville, Mich.—The unhealthy and diseased bone and tissue should be removed, then apply one part iodoform and ten parts boracic acid, covering stump with oakum and a bandage.

Shoulder Sweeney.—My three-year-old colt sprained shoulder some three months ago, causing him considerable lameness and by rubbing him with liniment I succeeded in curing him of it. Some time later the shoulder commenced to sweeney and I would like to know what to apply. R. D., Brown City, Mich.—Apply equal parts tincture cantharides, aqua ammonia, turpentine and raw linseed oil every two or three days and it will greatly assist in stimulating the growth of muscular tissue and filling out sweeneyed shoulder.

Goutre—Enlarged Thyroid.—When one of our colts was born it had a small loose bunch in throat and it has never gone away, but gradually increased in size until it is now the size of a goose egg. J. C. H., Edmore, Mich.—Apply one part iodine and ten parts fresh lard to throat bunch every day or two. Give 2 grs. potassium iodide at a dose twice a day.

Cerebral Hemorrhage.—My healthy looking cow, after walking about 60 rods, all of a sudden began to stagger, falling violently to the ground, rolling over on her back and pawing the air, but when I reached her she was lying in a natural position, ears hanging and her whole body was cold. After remaining down a

(Continued on page 107).

For Sale—Horses, cattle, sheep, swine, poultry and dogs, nearly all breeds. Sires exchanged. South West Michigan Pedigreed Stock Ass'n., David Woodman, Sec'y.-Treas., Paw Paw, Mich.

BREEDERS' DIRECTORY.

CATTLE.

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Herd, consisting of Trojan, Ericas, Blackbirds and Prides, only, is headed by Egerton W. a Trojan Erica, by Black Woodlawn, sire of the Grand Champion steer and bull at the International in Chicago, Dec., 1910. A few choice bred young bulls for sale. WOODCOTE STOCK FARM, Ionia, Mich.

AYRSHIRES—One of foremost dairy breeds; young bulls and bull calves for sale. Berkshire swine. All pure bred. Michigan School for Deaf, Flint, Mich.

GUERNSEYS—Two nicely marked bull calves dropped in March, at farmers prices. ALLAN KELSEY, Lakeview, Mich.

For Sale—Registered Ayrshire Bull Calves at farmers' prices. Also a few cows and heifers. E. A. BLACK, R. No. 6, Lakeview, Mich.

GUERNSEY BULL CALVES for sale, at prices you can afford to pay. (Reg.) W. W. BURDICK, Wayland, Mich.

GUERNSEY BULL CALVES, YORKSHIRE PIGS, Good Stock. HICKS GUERNSEY FARM, Saginaw, W. S. Mich.

For Sale—Registered GUERNSEY CATTLE, Large Yorkshire hogs, either sex, best breeding. JOHN EBELS, R. 10, Holland, Mich.

A 24-lb. Bull

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My herd averages 19 lbs.

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FOR SALE—6 yearling Holstein Friesian Bulls, 2 A. R. O. bred. Some cows. Also bull calves. 34 years a breeder. Photos and pedigrees on application. W. C. JACKSON, South Bend, Ind., 719 Rex St.

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One can Medico makes 75 lbs. Medicated Salt cost \$1.00. On case lots containing 10 cans WE PAY THE FREIGHT.

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REFERENCES: Any Chicago Bank or Commercial Agency

Read what others say about Medico

Albion, N. Y., June 23, 1912.
I mixed the contents of the can of Medico received of you some time ago, as per directions, and have been feeding to my hogs, cows and horses. Am well pleased with the results and find it much cheaper than any other Medicated Salt I have ever used, at least 75% cheaper.
Yours respectfully,
C. A. STACY.

Newton, Iowa, June 10, 1912.
I wanted to give Medico a good test before I wrote you. I am feeding it to all my sheep and lambs and horses. I had one horse that always had a rough coat of hair but after I fed it three weeks he was just as glossy as any that was out on grass. I have sixty head of lambs that are all growing well. I lost some grown sheep but have not lost any since feeding Medico.
I am going to order again in time so I will not run out. I think I could sell a good lot in the neighborhood after they find out about it.
Yours respectfully,
K. C. DAMMAN.

Oregonia, Ohio, May 23, 1912.
I am feeding Medico to my stock. My herd of sheep are in fine condition. They seem to like it and eat a great deal of it. I think Medico is alright and will always feed it as long as my sheep look as well as they do now. Will send in another order soon. I am sure Medico is the cheapest Medicated Salt that I ever used.
Yours respectfully,
HOWARD IAMS.

Hopedale, Ill., June 6, 1912.
Please ship me by freight 5 cans of Medico. Am well pleased with Medico. I am feeding it in place of common salt to 180 hogs and 30 horses and colts. I had 7 mares bred and each foaled a good strong colt without any trouble of any kind. The 7 colts are all hearty. I think Medico helped the mares through the pregnant period as none were sick or slipped their foal.
Am also feeding it to my milch cows and a few sheep. All stock eat it and relish it. I had fed 300 lbs. of advertised Medicated Salt but this is much cheaper and as good or better.
Very respectfully,
H. S. GRIESEMER.

Gridley, Ill., June 24, 1912.
In reply to your letter of May 21st, 1912, will say that my experience with Medico was, that before using same my horses were run down—their blood and system more or less out of condition, and after feeding same about a week they shed their old hair, got a good appetite and we could see a big improvement in our horses. Medico proved with me as good as you recommended it to me. Anyone that wants a good cheap Medicated Salt will do well by buying same.
Wishing you success, I remain,
Yours truly,
P. P. EHRESMAN.

Gem, W. Va., July 6, 1912.
I will endeavor to send you my recommendation of "Medico." It has proved all right as far as I have used it. I have only used half of it as yet and think it is fine for sheep. Yours truly,
S. B. SINGLETON.

Brookville, Ind., July 15, 1912.
So far I am well pleased by using it on swine. I think there is something in Medico, for I double my order this time. Yours truly,
P. M. ELWELL.

Hillsboro, Ohio, July 29, 1912.
Enclosed find check for which send me two cans of Medico. Medico is all right. My lambs look well.
Yours truly, JOSEPH L. HIBBS.

Wakeman, Ohio, July 3, 1912.
I received the Medico all O. K. and it is all gone today, so will send you Postoffice order for another case.
Yours respectfully, A. C. FERGUSON.

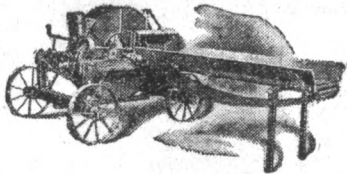


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Dept. L, Chicago, Ill.

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Cream Separator

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Pile in the corn faster and faster and watch it disappear in a Whirlwind. It's a mighty powerful machine—so easy, so smooth running. The Whirlwind is mounted on a rugged, strong frame; main shaft runs in four wide-apart, dust-proof bearings, which hold it absolutely rigid, no matter how severe the strain; has one-piece cutter and blower-head.

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The sale of Saginaw Silos this year has exceeded all broken records. However, you can depend on prompt shipment if you order a Saginaw Silo at once. Shall we send you a copy of the new book, "The Easy Way of Silo Filling"; or, "The Building of a Silo"? Also ask for Circular Q.

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THE DAIRY

CONDUCTED BY COLON C. LILLIE.

DAIRYING ON FORTY ACRES.

A reader of the Michigan Farmer writes me, asking how he shall manage his 40-acre farm in order to get the best results from a dairy. I have chosen to answer him through this paper, in the belief that there are others who, like him, have small farms and hesitate to enter the dairy business for fear of not being able to grow feed enough to sustain the herd. Of course, the number of cows that one may keep on 40 acres of land will vary greatly with the quality of the soil, and other circumstances, and yet it is certain that on fairly good soil, a herd of eight or ten cows may be kept by the 40-acre farmer, and with intensive methods, providing the grain is bought outside, and only the roughage grown at home, a still larger number can be kept.

If I were to build up a dairy on 40 acres, I would begin with five or six cows, and increase the herd as the farm became adjusted to the new order of things.

I should not depend on pasturing the cows throughout the summer, but should plan to give them a small area hoping that there would be grass enough to help out through May and June, and that the field would furnish the cows room for exercise, and a sort of battleground where they could meet the flies and lie in the shade at will.

I should want 30 acres to use in growing crops, and my success would depend largely upon the rotation followed. I would sow six acres to alfalfa as soon as the ground could be gotten ready, and would take no chances. I would inoculate the seed and lime the soil if it seemed at all necessary, and would cover the field with manure the year before if I could. A well known gentleman in Manistee county sowed a large field of alfalfa last year, and limed the soil for the most part, leaving a strip of ground without lime, for a check. The writer was there recently, and wishes to say that the first cutting as far as the lime went, was very fine indeed, but where the lime was omitted, the owner will have to wait for some time for his success. After six acres had been devoted to alfalfa, 24 acres would remain to be farmed in rotation.

I would divide this area into three fields of eight acres each. I would plant one of these fields to corn each year, and follow corn with oats the next spring, using only one bushel of seed per acre, and seeding to clover. In case the land was heavy, or moist, I would sow a little alsike and timothy with the clover. Should the season prove too dry for the seeding, I would cut the oats for hay, and give the young clover plants all the room. In case the season proved very dry, I would top-dress the young clover in August. In ordinary seasons it would be possible to harvest and thresh the oats without injuring the clover at all.

After five years I would fit six acres of the corn stubble and sow to alfalfa, leaving but two acres for oats that year. The following spring I would plow my alfalfa field and plant to corn, and cut the alfalfa hay from the newly sown field. Of course, I should have only two acres of clover to cut in that season, but should plant an extra six acres of corn which would compensate for the loss of the clover.

The alfalfa would add a large amount of nitrogen and vegetable matter to the soil, beside furnishing more feed than any other forage plant known to our latitude, and it would be a distinct advantage to have it carried all around the farm in time.

I should put most of the corn into the silo and plan to feed ensilage 10 months in the year, at least.

The alfalfa and other clover would help out and make it possible to feed a somewhat smaller ration of ensilage than would otherwise be necessary; and, in a few years, with the improved condition of the soil it should be possible to grow enough to furnish ensilage enough for a large herd, nearly the entire year.

I would not care to build two silos at first while the herd was small, but would build one 40 feet high and but 10 feet in diameter. I would feed from this until the grass was good and then let the cows go out to pasture until the dry weather had shortened the feed, then I would open the silo again and feed until the ensilage was gone. By and by, when the herd had increased until the silo no

longer held enough to last it the required length of time, I would build another. Thus would I be prepared to meet the needs of the growing herd and make the most of the corn grown on the farm.

The profits of such a venture would depend on the kind of cows kept, in large measure. It is very unwise to try to dairy with a lot of poor cows. We want the best we can get, and there is no longer any excuse for the dairyman keeping a poor herd. There would be large profits in a pure-bred herd if the individual cows were right. We need more pure-bred cattle, and every man who is really in earnest about improving his herd should look forward to the possibility of a strictly pure-bred herd in the future.

Yes, 40 acres will make a fair dairy farm, and give any wide awake man a chance to demonstrate his worth in the dairy business, if he will but go at the work in earnest.

The possibilities of the soil will grow greater and more and more cows can be kept, and the dairyman will be simply a living prophet of the time when farming in all lines will become more intensive, for only in this way can the great world be fed.

W. F. TAYLOR.

A FALLING OFF IN DAIRY PRODUCTS.

In talking with the manager of one of the leading creamery concerns in this country recently, he expressed a belief that the dairy output this year, that is, the production of raw material of milk was less than usual. He had an idea that it was quite perceptible, and this I find seems to be the opinion of a great many people; that there is not as much milk produced this summer as last; that there is a general falling off in the production of milk, and I am inclined to believe that this view is right. In fact, I stated this opinion before, that we need not look for any increase in dairy products in the near future as long as the prices of other farm products hold as high as they do at the present time, and the reason is quite obvious, especially to the dairyman. If a man can make as much money in raising wheat and corn and oats or potatoes or almost any other crop as he can out of dairying he is bound to cut down the number of cows and sell some of these products. Why? On account of the labor problem. Dairying, while it is a stable business, and withal a good business, is a continual grind; that is, it is a kind of business that you have to keep your thumb on 365 days in the year. After a man does this for several years it begins to get rather monotonous; and if there is any chance for him to sell the products which he raises on his farm without first feeding them to the dairy cow, and make as much money as he could if he fed them to the dairy cow, he is going to sell part of the crops, at least, and not milk as many cows, certainly he is not going to increase the number of cows. On the other hand, when wheat was down to 40 or 50 cents a bushel and corn was low and oats and everything else down, it paid the farmer to feed these crops to the dairy cow and ship butter or milk instead. It pays him now. There is no question about that if he has got good dairy cows. But if he can get a living and something besides without doing the work in caring for cows he is going to do it. It is a natural consequence of these conditions.

Then again, a number of poor cows have been sold resulting from the education which the farmers have received through the co-operative cow testing association idea. He has been able to determine the poor cows and they have been sold. This cuts down the total output of dairy products. The farmer may be making more profit out of his dairy than he was before, but the consumer doesn't get as much milk, because there are not so many cows. Dairy products will have to be higher yet in comparison with other food products before there is a material increase in dairying.

With the proper facilities, feeding the calves can be easily and satisfactorily done. The use of stanchions is generally recommended for this. They can be built inexpensively. The calves are held securely until each has consumed its portion of the milk. One calf is prevented from robbing another. The feeder's strength is not required to prevent an animal from tipping over the pail or to keeping some away while others are drinking. If any are inclined to suck they can be confined in the stanchions till the taste of milk has left their mouths.

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If you now have a cream separator that is not giving satisfaction—old or new—hard-running, hard-cleaning, a poor skimmer—broken down or worn out—get rid of it right away. You don't need to put up with it a day longer. Stop the waste of cream, the waste of time, the needless drudgery. Trade in your old machine toward the

Easy-Cleaning SHARPLES Tubular Separator

Just drop us a postal or letter and tell us what make of machine you have, how long it has been used and how many cows you keep. We will immediately make you a proposition, either direct or through our agent near you, to take it off your hands.

Before asking you to accept our offer, we will deliver a Tubular to your place, set it up and let you give it a thorough trial. Then you can see for yourself why Tubulars have double skimming force—get cream no other separator can get—why they are easier to clean, turn easier, wear longer and cost least for repairs. Write today for our exchange proposition and Catalog 601.



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More Butter in Less Time

than by any other churn or method. The Norcross Improved Butter Separator makes butter out of Sweet or Sour cream by air in from 3 to 10 minutes. Will pay for itself in butter gain over the old method in few weeks. Absolutely Guaranteed. Sanitary marvel—wonder of the age. Four sizes, 1 to 15 gallons. Send for catalog.

Agents Wanted Liberal terms to responsible men and women in open territory. High-grade proposition. Sells at sight.

We will ship the "Norcross" direct on receipt of price, with the guarantee that money will be refunded if not as represented. Put it to your own test with your own cream. Isn't that fair?

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We want to prove that our machines are a good investment before you give up your money. We know they are so good that we do not feel it a risk to make this offer. Many new features have been added which you should know about before buying a machine. Catalog explains all. It is free. **The E. W. Ross Co., Box 114 Springfield, O.**

Only \$2 Down One Year to Pay!

\$24 Buys the New Butterfly Jr. No. 1. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime. Skims 35 qts. per hour. Made also in four larger sizes up to 51-2 shown here.

30 Days' Free Trial. Earns its own cost in saving in cream. Postal brings Free catalog folder and "direct-from-factory" offer. Buy from the manufacturer and save half. (12)

ALBAUGH-DOVER CO.
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GETTING RESULTS WITH COWS.

Anyone who has had a large dairy herd knows how difficult it is to get first-class milkers who will draw the milk rapidly from the udder without injuring that delicate organ, and yet get every drop the cow is capable of producing. The cow is a sensitive creature and requires to be handled in a very gentle manner, and no portion of her body is as sensitive as the udder.

It is a great relief to the cow to have her overdistended udder relieved of the milk that is in it. How often have we stood in front of a cow which is being milked by a skilled and gentle milker, (and no one, unless he is gentle and sympathetic, will ever make a really good milker), and seen the look of contentment which comes in the eyes of the cow; with half-shut eyes and a dreamy look she gladly yields up the lacteal fluid we ask from her. She is prepared to do her part by man, and she asks in return that man do his part by her by drawing the milk quickly, but gently, not by unnecessary tugging at the teats, but by gentle, rapid pressure, with a downward movement of the fingers. Good milkers are rare, and they are a priceless blessing on any well-managed dairy farm.

It goes without saying that the cow should be milked regularly and at the same hour each day, and always by the same milker. A change in the time of milking or in the milker means a decreased flow of milk until the cow becomes used to the ways of the new milker, and there is a bond of sympathetic confidence established between him and the cow.

In the matter of feeding and handling, much loss often occurs from lack of appreciation of the wants and needs of each individual cow. A proper ration may be compounded, but the duty of the feeder does not end here. It is folly to say that the cow can always be fed in proportion to her weight, or that all cows will do equally as well on a similar ration. Each cow has her own individual power of assimilation and taste, both of which must be considered and satisfied if she is expected to do her best work and give the greatest net profit. These will even vary when cows have all been bred and reared on the same farm, nevertheless what will best suit the appetites and will be best assimilated by the cows is largely a matter of training.

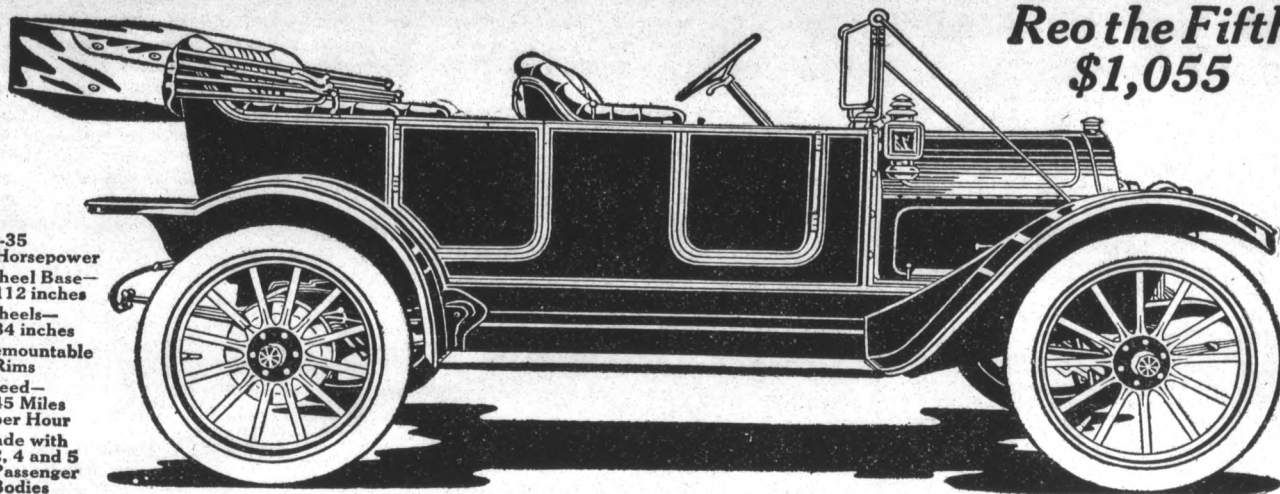
I have obtained a good measure of success in the handling and feeding of cows. I apply the laws as they affect the human race to the cow and have secured the best results by so doing. The cow is, after all, the great foster mother of us all. We should consider her as such and treat her with the same kindness and consideration that a mother is entitled to at our hands. I try to know each cow of my herd; to appreciate her wants and supply them; to get at the peculiarities of each cow and cater to them; to establish a bond of sympathy between myself and my cows. To say that cows have no affection for, and no memory of, their attendants is wrong.

In order to make the greatest success of a herd, study the wants of each cow; know such wants and supply them. Treat the cows kindly and they will readily respond thereto. Curry them daily, and especially in winter; it is healthful and beneficial to the cow. Do not expose them to inclement weather in winter nor to the hot rays of the sun and heat of summer without proper protection or shelter. Feed them regularly, at the same time each day; have them milked at the same hour and by the same person; establish a bond of sympathetic friendship between you and your cows and you will go a long way toward making them the most profitable bank account you can tie to.

Illinois. W. H. UNDERWOOD.

THE NATIONAL DAIRY SHOW.

There is no cajolery in the announcement that the 1912 National Dairy Show promises to be the greatest dairy exhibit ever put before the American people. The equipment that has enabled the building up of the great fat stock show at Chicago, is to be at the disposal of the dairy people this year and for years to come. The millions of dollars invested in dairy cattle, farms, buildings, and other equipment gives substantial backing to the exhibition. The breeders are pleased with the outlook and are going to be present with their best animals. Manufacturers of dairy and factory equipment are laying plans more comprehensive in an educational way, than for any previous show. Agricultural colleges, experiment stations, boards of health, will all co-operate to make the show not only worth while, but a show that people interested can in no way afford to pass by. The dates are October 24 to November 2, a time when all can attend.



Reo the Fifth
\$1,055

30-35
Horsepower
Wheel Base—
112 inches
Wheels—
34 inches
Dismountable
Rims
Speed—
45 Miles
per Hour
Made with
2, 4 and 5
Passenger
Bodies

Top and windshield not included in price. We equip this car with mohair top, side curtains and slip cover, windshield, gas tank and speedometer—all for \$100 extra. Self-starter, if wanted, \$20 extra.

The Center Control

By R. E. Olds, Designer

Nearly every builder of high grade cars is designing a center control.

In another year, cars with side levers which block a front door will be so out-of-date as to hardly be salable.

Bear this in mind in selecting a car. The side lever car is now a back number, as every maker knows.

Left Side Drive

In some cars the side levers are merely moved to the center. That idea won't do. Men want to get rid of the reaching. They want the front of the car to be clear.

In Reo the Fifth there is only one lever, and that is placed close to the seat. All the gear shifting is done by moving this lever only three inches in each of four directions.

There are no brake levers, for both the brakes are operated by foot pedals.

This arrangement permits of the left side drive, as in electric cars. The driver sits close to the cars which he passes. He is on the up side of the road. In making any turn which crosses a road he is sitting where he can look back.

That is the greatest reason for the center control—to permit of the left side drive. Every car is coming to it as fast as models can be changed. The side levers and the right side drive are going out at once.

This Year's Sensation

Reo the Fifth, with the center control, has been this year's sensation. Our spring output was five times oversold.

In all the 25 years I have spent in this industry, I have never seen such a popular car.

It is this amazing demand which has driven makers to the immediate adoption of center control.

But That Isn't All

There are other reasons beside center control for this car's immense popularity.

It is the final result of my 25 years spent in car building. In every detail it marks the best I know.

The cars are built under my supervision. And I insist on absolute perfection.

The steel is twice analyzed, before and after treating.

The gears are tested in a crushing machine of 50 tons' capacity.

Parts are ground over and over to get utter exactness. The parts in each car pass a thousand inspections.

Engines are put through five severe tests—48 hours in all.

Finished cars are tested over and over.

There are in this car 15 roller bearings. Ball bearings are nowhere used, save in the clutch and fan.

The bodies are finished in 17 coats. The seats are luxurious. The tonneau is roomy.

With a lifetime's reputation at stake on this car, men know I am mighty careful.

Then the Price of \$1,055

And the underprice has been another sensation. We fixed the initial price at \$1,055, which is \$200 below any car in its class.

The price of this car must soon be advanced, because of advancing materials. It is much too low. But the price remains at \$1,055 while our present materials last.

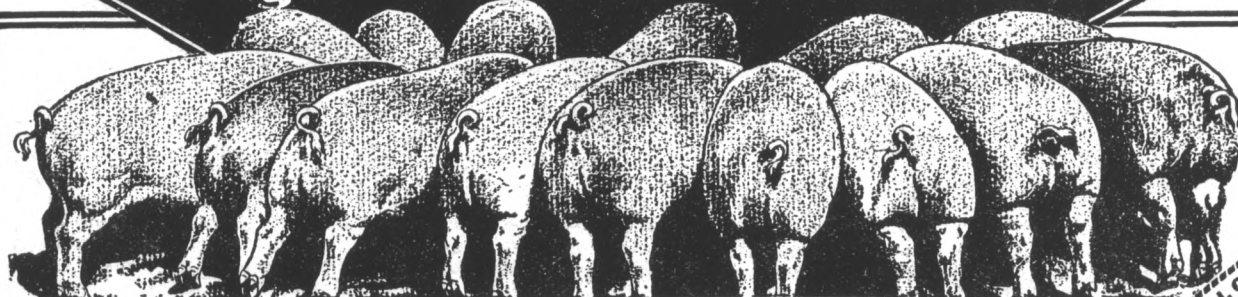
Reo the Fifth is sold by dealers in a thousand towns. Write for our catalog, showing all styles of bodies, and we will tell you where to see it. Address

R. M. OWEN & CO., General Sales Agents for REO MOTOR CAR CO., Lansing, Mich.

Canadian Factory, St. Catharines, Ont.

(98)

Pigs Without Worms



I'll Stop Your Losses from Worms—I'll Prove It 60 Days Before You Pay

Little pigs only a few weeks old are often found loaded with worms. Hogs of all ages suffer from these deadly parasites. Then cholera, swine plague and other contagious diseases get in their destructive work. Stock troubled with worms don't thrive; they cough, have fever, act dull, and don't gain a pound. Your feed is wasted; your profits are stolen. Your animals frequently die, causing total loss of many dollars. I'll stop all this quick with Sal-Vet, the great worm destroyer and conditioner. I have done it for thousands of others. I'll do it for you, before you pay me a penny, if you will just send me the coupon.

Prices: 40 lbs. \$2.25, 100 lbs. \$5.00, 200 lbs. \$9.00, 300 lbs. \$13.00, 500 lbs. \$21.12. No order filled less than 40 lbs.

S. R. Feil, Pres. THE S. R. FEIL CO., Dept. M. F. Cleveland, Ohio

Read This Letter:

"I have had cholera bad. One west of me, on adjoining farm, lost about forty hogs and pigs with cholera; the one east, on adjoining farm, lost all he had, excepting four."

A. J. HOFFMAN, Leipsic, Ohio.

Send No Money—Just the Coupon

If you will fill out the coupon—tell me how many head of stock you have—mail it to me, I'll ship enough Sal-Vet to last them 60 days. You simply pay the small freight charge when it arrives, and when the 60 days are up report results. If it does not rid all your stock of the deadly stomach and free intestinal worms, I'll cancel the charge—you won't owe me a cent.

[72]

Neighbors both sides of me, east and west,

lost all he had, excepting four."

A. J. HOFFMAN, Leipsic, Ohio.

Send No Money—Just the Coupon

If you will fill out the coupon—tell me how many head of stock you have—mail it to me, I'll ship enough Sal-Vet to last them 60 days. You simply pay the small freight charge when it arrives, and when the 60 days are up report results. If it does not rid all your stock of the deadly stomach and free intestinal worms, I'll cancel the charge—you won't owe me a cent.

[72]

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DETROIT, AUG. 10, 1912.

URRENT COMMENT.

The Safety of Farming a Business.

One who makes a study of the monthly commercial reports could hardly fail to be impressed with the comparative safety of farming as a business. These reports for last month, for instance, showed a total number of insolvencies aggregating 1,230 in the United States, in which failures there were \$16,098,460 of defaulted indebtedness. While these business failures were more numerous than in recently preceding months, due in part to the pressure incident to the semi-annual interest settlement, it will be found by those who watch these reports from month to month that the aggregate of defaulted indebtedness from business failures regularly runs from twelve to fifteen million dollars per month.

It will be thought at first by the casual reader that the number of failures and the aggregate of defaulted indebtedness is due to the greater hazard of the larger enterprises than the average farmer's business. A further study of the figures for July are interesting in this connection. These figures show that of the total of 1,230 insolvencies during July, 1,207 were classed as having liabilities of less than \$100,000. These are classed as moderate sized failures and totaled a liability of \$9,696,221, or an average of \$8,033 which the July report states to be the highest average in more than a decade. This high average is explained by the further fact revealed by the figures that the percentage of relatively large sized failures within the \$100,000 mark was higher than usual.

It will thus be seen that a very considerable percentage of these business failures were of enterprises involving little if any more capital invested than would be represented by a good farm and its equipment, of which there are many thousands in the state of Michigan. Any well informed man will readily agree that there is not anywhere near so large a percentage of failures in farming as in other businesses since the farm investments greatly outnumber those of all other business enterprises grouped together. Thus, while farming is not a get-rich-quick business, it is a safe business, and while it may not pay as high dividends as more hazardous business enterprises it is more sure to return to the intelligent investor a livelihood and a fair interest return for his investment.

For those who feel that the business of farming is a little slow in the matter of fulfilling their ambitions to earn a competence quickly, a careful perusal of monthly commercial reports during a prosperous period, such as business throughout the country is now enjoying, will be time profitably spent. Too often the farmers who conclude to go into other business without the experience which is essential to the keen competition which is found in every line, permit their judgment to be warped by outside appearances rather than by facts. True, the average earning power of the capital invested in other business enterprises may be larger than the average earning power of the capital invested in farming, but the hazards are also greater and the added earning power is much more likely to be due to the experience and ability of those who conduct the enterprise than to any exceptional opportunity which is presented by the business itself.

Wise business men in other lines will everywhere be found investing in farms or other stable real estate, such reserve

capital as they may have on hand in order that they may have a reasonable competence assured in case reverses should overtake them in their other business activities. For these reasons, the man who is so fortunate as to own a good farm home clear of indebtedness would do well to consider the fact that he has a more safe and stable investment before yielding to the impulse which at some time comes to almost every man to change his business in the belief that by so doing he will improve his financial prospects and get ahead more rapidly with less worry and labor.

The latter idea is also a mistaken one in most cases. True, the farmer has many perplexing problems to meet, but it is equally true that their solution is a less strenuous matter and less likely to affect his future welfare detrimentally than is the case with the man who follows almost any other line of business. Truly, farming is pre-eminently a safe business and withal a business which affords equal or greater opportunities for the enjoyment of life as compared with any other business.

With the near approach of the final adjournment of this session of congress tariff legislation is assuming an important place in congressional activities. One of the bills in which the farmers of Michigan are most interested is the wool tariff bill affecting Schedule K. Earlier in the session the house repassed the Underwood bill which was vetoed by President Taft during the special session last summer. In the senate a number of substitutes were offered, that offered by Senator LaFollette being finally substituted for the house bill.

A conference committee was appointed by the two houses to adjust the difference between them upon this point and a compromise bill was agreed upon, based upon a raw wool duty of 29 per cent. This bill repassed the house on Saturday of last week and will undoubtedly be accepted by the senate before this issue reaches the reader. Interest in the specific terms of the bill will not be so great as would be the case if it were not reported upon good authority that President Taft contemplates the veto of this new bill upon the ground that it does not follow the lines of the report of the tariff board. It is also rumored upon similar authority that the other tariff bills including those dealing with the steel and cotton schedules will receive a similar fate at the hands of the President.

Thus, the interest of the 55,000 sheep breeders of Michigan in this proposition will lie in the fact that the industry will remain in a more or less uncertain status, due to the uncertainty of the future tariff legislation affecting it. During the past two years the protection actually enjoyed by wool producers has been greatly minimized by this uncertainty, with the result that the flocks of the country have been considerably depleted while the products of the sheep breeder have remained at a low plane in price, as compared with the other animal products produced upon our farms. The outcome will be awaited with patience by those who are interested in the sheep industry, but farmers should not become alarmed to the point of neglecting the present favorable opportunity to engage in this business in a small way.

Like other enterprises, the sheep breeding industry has had its ups and downs during the history of our country and will no doubt have them again, but breeders would be unwise to emulate a characteristic of the animals they breed by following one another en masse in an effort to get out of the business before it shall be further injured by tariff legislation, since the prospects are that whatever legislation is finally enacted it will not hurt the business more than the prevailing condition of uncertainty has already done.

Apparently other lines of business concerned in tariff legislation have been less affected, due to the unparalleled demand for materials to keep pace with the industrial progress of the country. Anyhow, if rumor is correct regarding the attitude of the President in this matter, there will be little, if any, effective tariff legislation enacted by congress at the present session, and probably not at all by the present congress.

An interesting incident which comes to light in the proposed tariff legislation is the general disposition on the part of congress to repeal the Canadian reciprocity act. On Saturday of last week it was only by a close vote that the repeal of this act was dropped from the iron and

steel tariff bill, then on passage in the senate, and it is stated on good authority that an agreement exists among a working majority in the senate to attach a clause to the excise tax bill now under consideration, for the repeal of all the Canadian reciprocity act, except the free print paper provision now in force. It is expected that the house will meet this plan and put this proposition up to the President along with the tariff legislation.

Michigan Can Contribute to Cheaper Living.

With the record prices for which beef has been selling in recent weeks and no immediate relief in sight, considerable interest may be attached to the advice of Dr. R. E. Doolittle, successor to Dr. Wiley as government pure food expert. On this point the doctor says, "Eat beans. Beans are protein and protein is strength, therefore beans are strength." Among other substitutes for meat recommended by the doctor are nuts, cheese and milk, but he adds, "the golden bean as a substitute for meat sits enthroned in solitary glory."

Enjoying first place among all the states of the Union in the production of beans, Michigan may thus contribute to the cheapening of the cost of living in millions of homes throughout the country, which is a matter for congratulation to Michigan bean growers. Apparently beans are growing in favor as an ordinary and general diet, and notwithstanding the increased production of recent years the price has held at a remunerative figure for growers.

But in addition to producing beans as a source of profit and as a means of lowering the cost of living, Michigan farmers should also grow more beef which can undoubtedly be produced at a profit at prices which at present prevail or those which are likely to prevail for some years to come. Data from several experiment station trials and figures regarding private feeding enterprises where ensilage has been used as a roughage for cattle feeding has shown that with the use of silos Michigan farmers can make a good profit in beef production as compared with little or no profit or an actual loss under other methods of feeding.

Michigan will continue to raise an abundance of beans but she should also produce a greater abundance of beef. Live stock farming of some kind should supplement the growing of cash crops upon every Michigan farm in order that the fertility of the soil may be maintained at its maximum, with a minimum of cash outlay.

State Aid in Agricultural Education.

The plan under which agriculture has been introduced into a number of high schools in Michigan under the supervision of Prof. French, at the head of the Department of Agricultural Education at M. A. C., has been fully outlined and explained in these columns so that every Michigan Farmer reader should be familiar with it. This plan has proven so successful that much interest was taken in it by the noted agricultural educators who attended the graduate school of agriculture held at M. A. C. this summer. As a result Prof. French has been called to New York to give a number of lectures concerning the work done and the results accomplished in Michigan.

Several other states are patterning after this plan which originated in Michigan some five years ago. At that time there was no precedent and the courses were prescribed in accordance with the judgment of the best educators in the several lines. In commenting upon the results Prof. French stated that more than 100 men have gone back to the farm who, earlier in life, when they entered the high school and took up this course had no such plans.

In addition to the instruction which has been given to something like 600 boys in the high schools of the state, special Saturday lectures and one week short courses have been given in several of these schools to farmers in the community who became interested, which have been attended by approximately 1,000 farmers.

That this work is growing rapidly is attested by the fact that it is limited only by the difficulty in getting teachers who are equipped to carry on the work. Some nine high schools in the state will add a full four year course in agriculture this fall with a special teacher to carry on the work, while more than a dozen will give some work along this line without a special teacher. It is believed by many who have been in close touch with this work that the time has arrived

when some assistance should be rendered by the state in the way of a subsidy which would be given to schools introducing this course. An attempt was made at the last session of the legislature along this line. Nine states through their legislatures are now offering such subsidies to high schools which introduce courses in agriculture, Minnesota being in the lead in liberality in this regard.

The work thus far has been accomplished along conservative lines, but the growth which it has attained and the results which have been accomplished are so great that a sentiment is growing up in favor of state aid along this line. The sentiment for the general introduction of agriculture in the primary schools is becoming so great that Superintendent of Public Instruction Wright has announced his intention to take steps toward that end in the near future. This will be accomplished in a gradual manner, as has been the case in introducing similar work into the high schools.

It is much better that we grow into this work than that we go into it on an extensive scale, as in this way mistakes will be avoided, but where the proposition has been tried out to an extent which makes its value a certainty rather than a theory, there is no doubt that it would be profitable for the state to encourage it to a reasonable degree. There is no other way to make good farmers so certainly as to interest the boys and girls in the possibilities of science as applied to agriculture. Once interested, they will follow their investigations outside as well as inside the schoolroom, with the result that the succeeding generation of farmers will be far better equipped to make a success of their business than were their fathers, since they will be able to couple scientific training with practical knowledge in the most effective manner.

HAPPENINGS OF THE WEEK.

National.

The national convention of the National Progressive party is now in session at Chicago. Albert J. Beveridge, of Indiana, acting as temporary chairman, delivered the opening address. His position on the tariff question is that the issue should be removed from politics and put on a business basis by being placed in the hands of a non-partisan commission. He believed child-labor to be a national question, favored more stringent regulation of labor conditions and urged the necessity of a revival of honest business.

A warning has been issued by the department of agriculture as to the use of what is termed "fried frozen eggs" and "boiled dried eggs." When prepared under proper sanitary conditions these eggs may be wholesome, but unless this is done their fitness for food is very questionable.

To date the authorities have failed to capture two of the parties charged with the murder of Rosenthal, the gambler, in New York City a couple of weeks ago. The police department is being very closely connected with the affair and the thorough investigation which is promised is expected to reveal a system of corrupt practices among some of the police officials, since a booty of over \$2,000,000 is known to be distributed annually.

Employees of the paper mills at Kalamazoo are out on a strike. The number of idle men and women is placed at \$3,000 the pay roll of which amounts to \$25,000 per week.

Aviator Beachey was injured while attempting to make an aeroplane flight at Battle Creek, August 4.

A plan is being projected by the supervisors and the board of road commissioners of every county along the east shore of Lake Michigan for the construction of a macadamized road eight feet wide from Chicago through those counties to the Straits of Mackinac.

Chicago police have completed an inventory of the articles stolen by an alleged society burglar and forger now under arrest. The goods discovered are estimated to be worth \$250,000.

In the past two weeks the people of the city of Philadelphia have been waging a crusade against rats. The city appears to be overrun with the rodents this summer and extreme measures are being taken in an attempt to eradicate them.

Three men were drowned in a motor boat run down by a steamer on the Delaware river near Burlington, N. J., last Sunday.

Eight of the city officials of Detroit connected with the recent scandal in the common council are reported to have made confessions of their guilt to having received sums of money for supporting an ordinance to close a street to accommodate a railroad company. The aldermen are also believed to be guilty of further graft in connection with liquor bonds. Other matters are being brought to the attention of those having the investigation in charge. It is believed that a general clean-up will be made now that an opening into the methods of graft carried on by certain councilmen has been made. Warrants were sworn out for nine of the aldermen on Monday by the prosecuting attorney.

As a result of the investigation of the steel corporation a bill is to be introduced into congress indirectly providing for

the dissolution of that concern. The bill promises primarily to prohibit holding companies from engaging in interstate trade. There is also a provision against industrial corporations operating or controlling transportation lines.

It is expected that congress will adjourn August 17. However, much work is to be done before the members can leave for their homes.

Arthur J. Tuttle, United States District Attorney in the eastern district, southern division of the United States court has been appointed to succeed Judge Alexis C. Angell of the same district. Clyde I. Webster has been appointed district attorney to succeed Mr. Tuttle.

It is predicted that there will be a shortage of over 70,000 cars next October when the movement of crops to market begins.

The Missouri Bankers' Association have selected an agricultural committee to arrange for agricultural advisors to be located in each county of that state. The purpose of these advisors is to give the farmers information on scientific farming. It is hoped by the bankers that better farming methods can be secured through this system.

The police and fire commissioners of Lansing are under a cloud, sensational charges having been made against them by a former city employee. The council has named five of its members to investigate the charges.

One man was killed and four injured by the falling of a scaffold at the farm of Herman Schultz, near St. Joseph, Mich., Monday.

Foreign.

Mt. Etna, of Sicily, is reported to be in eruption, fire, smoke and lava having suddenly burst forth from the crater last Saturday night. Several earthquakes followed the eruption and the inhabitants of Catania were panic stricken. There appears to be, however, no danger from the present condition of the famous volcano.

Trouble is reported at Nicaragua where the United States government has ordered a second gunboat sent to protect her interests.

The sultan of Turkey issued a decree Monday dissolving parliament. The chamber had passed a resolution showing a lack of confidence in the cabinet and ordered the arrest of two former ministers. The election of new members of parliament will be called at an early date.

CROP AND MARKET NOTES.

Gratiot Co., Aug. 2.—This morning another heavy shower has just passed. July was characterized by frequent downpours, causing heavy damage to hay and nearly all growing crops. Practically no wheat had been secured before July 31. That afternoon, and all day August 1, it was dry, enough to draw and farmers improved the time. There are many acres of hay yet standing. Beans suffered greatly, some fields nearly all dead, others only in spots, while those on the sandy or well drained soils are but little damaged. Cultivated crops are generally greatly neglected. Oats have lodged very bad, leaving a good growth of straw and the ground soft. Fall and winter apples promise a good crop in this section.

Eaton Co., Aug. 4.—For the past two weeks it has been cool and cloudy most of the time, with frequent showers. The mercury was down to 40 degrees one morning. Wheat is mostly in the shock, and oat harvest just begun. Wheat a light crop, oats fair. Corn and potatoes making a good growth, but would do better with warmer weather, the cold north winds night and day, do not make ideal growing weather. Wheat has dropped to 95c, beans to \$1.25, hand-picked \$1.40. Rye is down to 70c; oats, 45c, but corn stays at 80c; potatoes, 85c; butter, 22@24c; eggs, 19@22c, according to size and cleanliness. Hogs \$7@7.50; calves, \$5@7.50; lambs \$4@6; hay, \$8@10. The fruit crop will be short this year. The hay crop, especially clover, turned out pretty well, but farmers had a strenuous time. The weather was good the first three weeks of July, but help hard to get. Some paid as high as \$3.50 a day.

Lapeer Co., July 27.—First day of sunshine for a week. The very heavy downpour of rain on the night of July 23 was the heaviest known here for years, caused, it is said, by a Bay City experiment in dynamiting the clouds to produce the desired rainfall. Many fields were inundated. Some fields of grain are not cut, for the ground is yet too soft to get on with the binder, and there is some hay yet to cut, but the farmers cannot get on the fields with machinery. Some potatoes and beans in spots are killed by water standing on them so long, where drainage was not good. Some fields of corn are not up-to-date in size, while other fields look and promise better. Orchard pests are not as bad this season as has been the case in former years. Fruit, both on sprayed and unsprayed orchards, is at present, in appearance quite perfect. Lots of hills missing in both potato and corn fields, and blight is reported in some fields of potatoes. Cherry crop was very light, peaches and plums a failure. Apples, both early and late, are hanging on good. Berries of all kinds a very short crop. Hay crop fair to good. Hogs are scarce and still buyers are not willing to give a fair price. A better price for eggs is quoted. Butter, 22c.

Ohio.

Wayne Co., July 22.—After having a week of fine haying we are having a spell of very wet weather, it having rained every day for a week with a very heavy rain on the 17th, about four inches of water having fallen, with heavy winds, blowing corn and oats down badly. Haying is not near completed on account of the wet weather. Corn is doing fine, having plenty of rain and warm weather to make it grow. Corn through this part of the county is very grassy, it being too

wet for proper cultivation. Late potatoes looking good, with prospect of a good crop. Oats beginning to ripen with prospects of a very good crop. There will be quite a quantity of timothy cut for seed, owing to the delay in haying and owing to the failure in wheat lots will be cut for timothy seed. Wheat, \$1.08; oats, 50c; corn, 70c; butter, 22c; eggs, 17c.

Hardin Co., July 30.—We have been visited through our section with plenty of rainy weather. Rather wet now to harvest oats. Some wheat fields that were left shocked up fairly well. Oats fair but have some smut. A large per cent of the hay crop is damaged by the wet weather. Hogs around the eight cent mark. Hay sells for \$10 per ton in the field.

MICHIGAN FAIRS THAT SHOULD BE WELL ATTENDED.

One of the first and best fairs in Michigan is the one held in Tuscola county at Vassar on Aug. 21-22-23-24. Horse races and other big attractions are promised. Wm. Grant, Sec.

The Caro Fair and Night Carnival is looked upon as one of the most successful fairs in Michigan. It will be held at Caro, Aug. 26-27-28-29-30. F. B. Ransford, Sec.

The Sixty-third Annual Flint Fair will be held Aug. 26-27-28-29-30. This fair will be a great one and not to attend will mean loss of profit and pleasure. Wm. Veit, Sec.

The Southern Michigan State Fair this year promises to be the "Biggest Yet." After much study and thought the board of directors have placed the dates Aug. 13-14-15-16-17, believing that a date at this season of the year in this particular location will give the best results. There are to be many radical changes in the procedures and many novelties offered in the way of free attractions. The buildings and grounds are now in the hands of the ground-keepers and will be renovated and renewed in a large degree.

Lenawee County Fair will be held as usual at Adrian, Mich. The dates are Sept. 23-24-25-26-27. Little need be said of what this fair will be as everyone knows that it is always the best. F. A. Bradish, Sec.

The Twenty-eighth Annual Charlevoix County Fair will be held at East Jordan, Sept. 10-11-12-13. Mr. W. P. Squier, the secretary, certainly knows how to extend a cordial invitation to attend. His fair will be a good one.

Everyone living in Barry county will certainly be at the fair in Hastings on Sept. 2-3-4-5. It will surely be worth attending.

Imlay City Fair on Oct. 1-2-3 will be better than ever. Full of attractions and plenty of fun for everybody that attends.

"The biggest 25c gate fair in America" is the way the Inter-State Fair at Kalamazoo, on Sept. 23-24-25-26-27-28 is advertised. Wm. P. Engelman is secretary. The big Copper County Fair at Houghton, Sept. 24-25-26-27-28, will be better than ever. It will be a pleasure and profit to attend. John McNamara, Sec.

Ten dollars for a bushel of corn and a bushel of apples are two of the many prizes offered at the Emmet County Fair at Petoskey, Mich., on Sept. 17-18-19-20. E. A. Botsford is secretary.

The Eaton County Fair, Charlotte, Mich., will be held Oct. 1-2-3-4. Interest in exhibits in all departments has increased. A full show will be made in all lines of farm industry, including the various ladies' departments. The Michigan Half Mile Shortship Racing Circuit races will carry purses of \$400 for each event. Airship flights will be featured.

The Northeastern Michigan Fair will be held at Bay City, Sept. 2-3-4-5-6, and will be one of the biggest fairs in the state. Nine counties combined. Very liberal prizes have been offered in all departments. The races and free attractions will be of unusual interest. Fireworks at night. W. J. Meagher, Sec.

The Great Calhoun Fair will be held in Marshall, Mich., Sept. 16 to 20, inclusive. With the fine track and the large purses offered there will be some of the best racing in Michigan this year. And being located in the center of one of the finest farming counties in Michigan, the agricultural display will be a feature attraction. R. S. Scott, Sec.

The outlook for the Dickinson County-Menominee Range Fair this year is better than ever. The management of the fair, which will be held on Sept. 11-12-13-14, at Norway, propose to hold an exposition worthy of the county. Every agriculturist in this section of Cloverland will participate and show those who attend an array of products of the soil that will eclipse all previous events.

The Sanilac County Fair will be held at Sandusky on Sept. 3-4-5-6. This is the 15th annual fair and races the association has given. The secretary, Mr. Walter Harrison, of Marlette, says, "There'll be something doing every minute of the time."

The Manistee County Fair will be held at Onkama, Sept. 24-25-26-27. This will be one of the best fairs ever held. Fine exhibits, free attractions, good music, horse races and lots of fun. New grand stand, flowing well and other improvements. H. R. Brodie, Bear Lake, Sec.

CATALOG NOTICE.

Split Hickory Vehicles, manufactured by the Ohio Carriage Manufacturing Co., of Columbus, Ohio, and oak tanned harness made by the same company, are fully illustrated and described in a 150-page illustrated catalog published by this well known company. In this complete catalog will be found listed the exceptionally large line of high-grade goods manufactured by this company. If in need of vehicles or harness write for this catalog at once, mentioning the Michigan Farmer.



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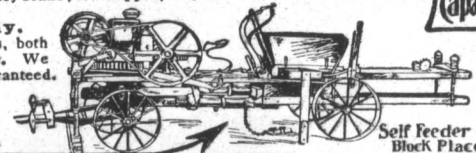
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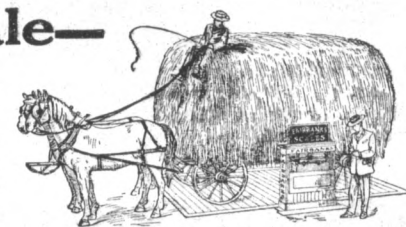


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PRACTICAL SCIENCE.

FEEDING STUFFS CONTROL.

(Continued).

BY FLOYD W. ROBISON.

A study of the law as shown in our discussion of last week will show one instance in which the burden of proof, as it were, is placed on the manufacturer. There are certain things which must be done by him before his goods may be marketed in the state. First of all, for each and every brand of feeding stuffs offered for sale he must file with the Dairy and Food Commissioner a guaranteed statement showing the exact composition of the product as revealed by chemical analysis. He must deposit a representative sample of the feeding stuff in question and must pay into the office of the Dairy and Food Commissioner the sum of \$20 which sum is for the purpose of defraying the cost of sampling and analysis of the product. Having complied with these requirements the product becomes legal within the state if it contains no ingredient which is specifically detrimental to health.

In the year 1909 there were 154 samples of such feeding stuffs which were on sale in the markets in Michigan and the number has appreciably increased, we understand, since that time. It may not be out of place in this connection to refer again briefly and for the information of feeders to the terms used in these analyses.

Constituents Mentioned in the Law.

The law prescribes that the percentage of protein, crude fibre, nitrogen-free extract and ether extract contained in the feed shall appear upon the tag or sack accompanying the feed in question. A commercial feeding stuff is usually selected because of a high content of protein. Protein is the most expensive and the most sought for ingredient of feeding stuffs. This is not because other constituents of a feeding stuff are not valuable but largely because of the fact that the other factors in a feeding stuff are sufficiently supplied with the ordinary roughages on the farm and other feeds of low commercial value which are obtained directly from nearly all Michigan farms. It is therefore usually uneconomical for the feeder to pay out money for a product which he is sufficiently producing on his own farm. But with the increase of dairying and stock raising most feeders are obliged to buy one or more of the concentrated feeds, that is, those feeds of a high protein content, feeds which they give to their stock in addition to the produce which they have on their own farms. By this procedure likewise the feeder produces a more balanced ration for his stock.

High Protein Content is First Essential.

The first great and general essential in purchasing commercial feeding stuffs is to buy feed of a high content of crude protein. This is intended, of course, essentially for feeders on Michigan farms. In some of the southern states where cottonseed meal is an important by-product, they are more interested in the purchase of feeds low in protein than high in protein. While they have the concentrated feeds, the Michigan farmer has the roughages and must buy the concentrates. In purchasing a feed, therefore, on the market, the feeder's first consideration should be to get one of a high content of protein. Of course, we are assuming at the outset that he is taking into consideration the factor of palatability, without which no feed, no matter what its content of protein may be, would be economical.

Crude Fiber the Second Prime Requisite.

The second great requirement, and one which is by no means of minor importance, is the percentage of crude fibre which the feed contains. We have discussed in these columns the meanings of these various terms and it does not seem necessary, then, to go over them here. It suffices merely to mention that crude fibre in a feed represents the roughage portion and is the feeder's guide to the net available energy represented by the feed in question. Crude fibre is the woody or fibrous portion of the feed and represents in general that portion which is of the least value for feeding purposes. The tendency of crude fibre in a ration is to counteract the effect of the protein. In other words, if a feed contains a high content of protein and at the same time a high content of crude fibre, we may figure that the presence of the crude fibre has neutralized the effect of the exceedingly high content of protein. If,

therefore, the manufacturer guarantees, we may say, 30 per cent of protein and is compelled to guarantee likewise, we may say, 15 per cent of crude fibre, the feeder knows that the net available energy from the protein in that feed cannot be nearly as great as in a feed containing the same amount of protein and only three or four per cent of crude fibre.

A feeding stuff is, therefore, of greatest value when it contains a relatively high percentage of protein and at the same time a relatively low percentage of crude fibre. In this connection it is interesting to note the one error in the feeding stuffs law of the state of Michigan.

The section prescribing the penalty makes it an offense punishable by a fine of not less than \$100 for any manufacturer or other person who shall attach or cause to be attached to any can or package an analysis stating that the feed contains a larger percentage of any one or more of the constituents mentioned than it does contain, namely, protein, fibre, nitrogen-free extract and ether extract. It is thus very clear that the law prohibits the claiming of a larger content of protein than is really present but it is axiomatic that no manufacturer would claim a larger content of crude fibre knowingly than exists, for the reason that the higher content of crude fibre, the lower the commercial value of feed. What was clearly intended, and we apprehend and trust that the courts will construe it with this intention clearly in mind, was that no manufacturer or other person shall claim a higher content of crude protein than actually exists nor a lower content of crude fibre than actually exists. A comprehensive understanding of the nature of the analyses referred to and the real meaning of the terms mentioned would surely advise one that it was clearly the intention to cover the point in the manner just mentioned although the specific wording of the law does not bear out that exact construction.

Nitrogen-free extract and ether extract need not be given any concern in the purchasing of the feeding stuff, for if the content of protein and the content of crude fibre are taken carefully into consideration then the others, the nitrogen-free extract and the ether extract will be found to be proportionately adjusted. They are of service in the analysis, of course, because they assist the feeder in arriving at the proper balance in the ration.

LABORATORY REPORT.

Will you kindly advise me as soon as possible, whether manure made from horses bedded with sawdust would sour land? Some think it would, but I thought there would not be enough sawdust in the manure to do so.

Cass Co.

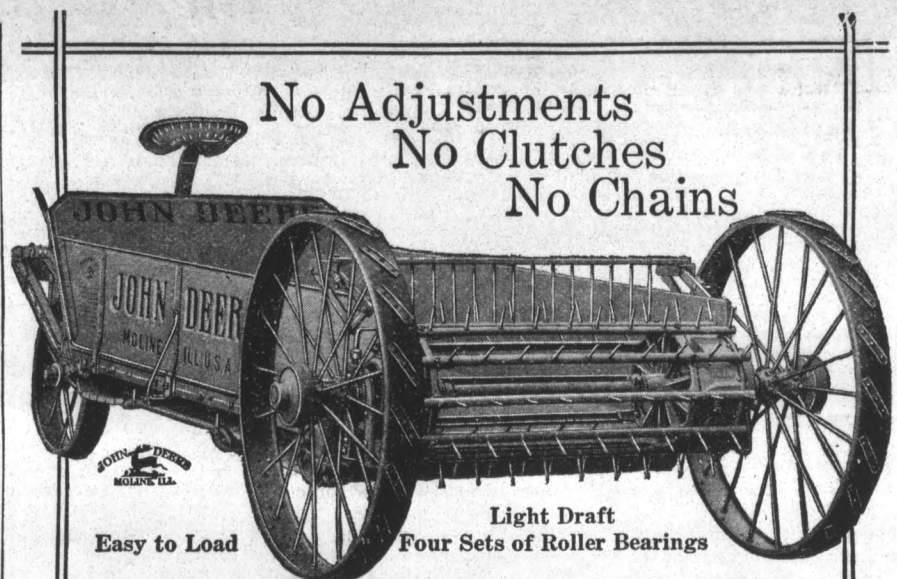
H. K.

In answer to the above question we will say that we have seen sawdust used for bedding in some considerable quantities and if properly distributed over the soil we do not apprehend there will be any danger from souring. Sawdust has many advantages for bedding, especially, of course, when great cleanliness is an important factor. It can be easily swept up from the cement floor and into the gutter and when carried out upon the land, if properly distributed, as all manures should be, we feel that there is no danger from the conditions of souring.

BOOK NOTICES.

Sheep Feeding and Farm Management, by D. Howard Doane, assistant agriculturalist in the office of farm management, U. S. Department of Agriculture and assistant professor in charge of farm management in the University of Missouri, is written for students of agriculture and for farmers and sheep feeders of the United States. In addition to being a valuable text book in the hands of students, it is a useful guide for those who desire direction in carrying on practical sheep feeding. While the book deals primarily with sheep feeding, it includes a chapter devoted to successful methods of raising and marketing early lambs by the general farmer. The book contains 128 pages, published by Ginn & Co., Chicago, Ill. Price, \$1.

Inside Finishing. By Charles A. King, Director of Manual Training, Eastern High School, Bay City, Mich. The methods of floor laying, finishing, hand railing, and of manipulating the material to accomplish the various forms of difficult crooked work, have stood the tests of many trials, and the chapters upon estimating, builder's data, and of suggestions to the young contractor will be of value to the student who expects to enter the building trades. Cloth, 12mo, 237 pages, with cuts and diagrams. Price, 80c. American Book Company, Chicago.



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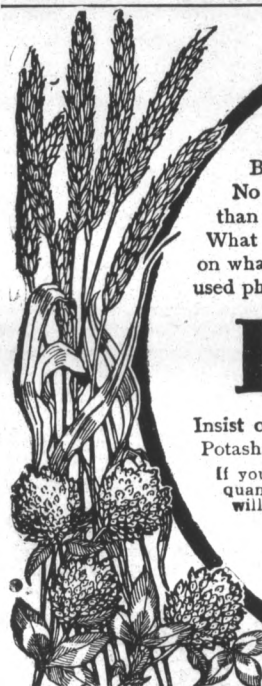
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Valuable Spreader Book—Free This new, special spreader book contains valuable information concerning the reasons for using manure on the land, how it should be applied, how to store it and the benefits of using it in various ways. In addition there is a detailed description of the John Deere Spreader, with illustrations in color of this new spreader working in the field.

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POULTRY AND BEES

APIARY CONDITIONS AND OUTLOOK FOR HONEY CROP.

The season of 1912 opened with very unfavorable prospects for anything like a normal crop of honey, not only for Michigan but also for the whole United States. Michigan emerged from the severe winter with a loss of about 50 per cent of all bees put away last fall. Some other states did a little better, but several of them suffered the loss of at least half of their bees. Many an apiarist found his whole apiary dead.

The cold backward spring did not help matters and about the first of May things were looking pretty blue. The copious rains, which have been pretty general over the country, have apparently changed all this, however, and the bee-keeper who was lucky enough to have any bees left will have one of the best crops, perhaps, in several years. That isn't all; on account of the great scarcity of bees there will be fancy prices paid for honey this fall, without a doubt. Another thing which augurs well for the bee-keeper is that, on account of many farmers being unable to get in earlier crops, an abundance of late buckwheat has been sown and so we may expect to see the hives well filled with this honey for their winter stores, with probably some in the supers besides.

Such winters as the last one are what help to increase the tendency to place the keeping of bees in the hands of the specialist. Statistics show that while the number of bees has remained about the same throughout the United States and Canada during recent years, the number of bee-keepers has materially decreased. This means that in bee-keeping, as well as in other pursuits, the laws of nature are being fulfilled in the survival of the fittest.

With wintering troubles, and swarming, and, worst of all, foul brood and kindred diseases, to contend with, those who try to keep bees without studying and learning the business are slowly but surely being weeded out and only the man who puts brains and time into it can succeed. This is no new principle, however, for the same thing can be said of the farmer, or of people in any other kind of business. The world today has no use for the man who cannot use brain power along with his muscle.

Mecosta Co. L. C. WHEELER.

TIMELY SUGGESTIONS.

Milk for Moulting Fowls.

Milk is an excellent food for growing chicks and, in fact, for any class of fowls. It is especially valuable as a food for moulting fowls, and may be used to good advantage in conditioning fowls for the show pen. Fowls that are given a liberal allowance of milk daily will soon show a marked improvement in condition. Skim-milk is not a dear commodity in the poultry yard when its beneficial effects upon the stock are considered.

Add flowers of sulphur to the soft food of moulting fowls twice a week if the weather is warm and dry, as it is helpful in cooling and purifying the blood, toning up the digestive organs and materially assisting in the production of new plumage. Sulphur may also be dusted freely about the bodies of moulting fowls, or, indeed, any other fowls, to keep insect pests down. It is a cheap and reliable cooling agent and insect destroyer and no poultry keeper should be without it during the summer.

Diarrhea Common in Hot Months.

The simplest form of intestinal disorder to which chickens are subject is ordinary diarrhea. It is catarrhal in its origin and may be likened to running at the nostrils brought about by irritation of the lining membrane of the nasal organ. The two chief causes of diarrhea are inflammation of the liver and the presence of sour food or other irritating matter in the intestines. Whichever cause is responsible for the mischief, it must be speedily removed; otherwise the affected fowls will rapidly weaken and soon die from exhaustion.

The first thing to do in a simple case is to remove the irritating matter from the intestines. To accomplish this the ailing chicken should be given a few drops of warm castor oil, this treatment to be followed a few hours later by the administration of olive oil to soothe the bowels. A good food for the chickens at such a time is wheat boiled in milk. For

young chicks oatmeal steeped in milk may be substituted. The best drink for chickens thus affected is barley water, made by boiling pearl barley in water until the latter becomes thickened. This drink has a good effect upon the irritated intestines and at the same time nourishes the patients in the event of their not being able to take the more solid foods mentioned above. They may be allowed to drink as much of this as they care to, especially if the trouble assumes the form of dysentery, which is distinguished by the presence of mucus and blood in the discharges. In a case of dysentery castor oil should not be given. In such cases I have found an occasional dose of olive oil and a two-drop dose of homeopathic tincture of aconite very helpful. After recovery the fowl will require a tonic to restore lost strength and vitality.

Canada.

W. R. GILBERT.

IN ANSWER TO INQUIRIES.

Symptoms of Tuberculosis.

A Genesee county subscriber writes that her hens get lame, then become pale about the head; feathers look dull and they act as if they cannot see well. They eat until toward the last, but finally die. Some die soon after showing first symptoms, but all become lame to start with. In some cases there has been slight diarrhea.

Aside from the fact that this correspondent does not say anything about the fowls growing thin and emaciated before death, the description indicates strong probability of tuberculosis. It at least seems advisable that a very careful examination be made of one of these fowls just after death. If a postmortem examination shows not only the liver but the spleen (the small rounded, purplish organ lying just above the liver), the intestines and the membrane which unites the intestinal folds studded with yellowish-white cheesy nodules of varying sizes, it may be regarded as almost certain that the fowls are tuberculous. That there may be no mistake, however, after the above conditions have been found to exist the matter should be brought to the attention of the department of bacteriology at M. A. C., and steps taken to have the point definitely determined by microscopic examination. Some results of a study of tuberculosis in poultry, made by this department, were given in our issue of Jan. 27, 1912.

Preserving Eggs in Water Glass.

A Kalamazoo county reader asks for directions for preserving eggs in water glass solution. Water glass is a chemical known as sodium silicate, is inexpensive and may be obtained from drug stores. The essentials to success with this method of storing eggs are as follows:

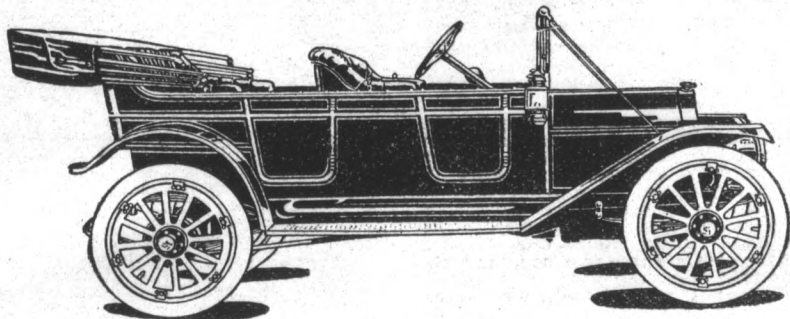
A cellar is a good place to keep the eggs, though any darkened room where the temperature does not go over 60 degrees F., will do. A stone jar is preferable to other receptacles, for it can be sealed and cleaned more thoroughly than most receptacles.

A five-gallon receptacle will hold about 15 dozen eggs. The preserving fluid itself should be made from clean water that has been boiled and allowed to cool. To every nine quarts of water add one quart of water glass, stirring thoroughly to insure a proper mixture of the two. A great deal of care should be taken in mixing the water glass and the water, and the more thoroughly this is done the better the chance of preserving the eggs. When eggs are to be preserved in several receptacles, the water and water glass should be mixed in each receptacle separately, for if they are mixed in one receptacle and poured into several, there is the liability of getting different percentages of water glass in each receptacle, with the result that some eggs are likely to spoil.

Into this fluid place the eggs, examining each one to see that it is clean and not cracked. A good method is to tap two eggs together gently before putting them into water glass. If they are not cracked they will give a true ring, while if one of them is cracked the sound will be entirely different and the cracked egg can be discarded. Keep the eggs well covered with the solution by adding a small quantity of boiled water when necessary.

The receptacles should be covered to prevent evaporation of the water from the solution. Where the receptacles are not covered the solution turns milky or changes to a thick, white pasty mass, making it more difficult to take out the eggs. This does not, however, necessarily detract from the preservative qualities.

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You don't buy a horse on the say-so of the man who has it to sell.

No. You look the animal over thoroughly to discover all his good points.

You put him through his paces to see what he can do on the road and on the farm.

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Match it up against any or all other \$900 cars, or against cars even up to \$1500 if you like—we have nothing to fear from such comparison.

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Great laying strain. Prices reasonable. Also eggs. **WM. P. BOOTH, R. 3, Orland, Indiana.**

EGGS Buff & White Orpingtons, Buff & White Leghorns, Barred & White Rocks, R. I. Reds and Black Minorcas. Circular ready. **H. H. KING, Willis, Michigan.**

WHITE Wyandottes—The most beautiful and useful of American breeds. Send for 1912 circular **A. FRANKLIN SMITH, R. F. D. 9, Ann Arbor, Mich.**

Crystal White Orpingtons—the great winter layers. Bargains in pens and trios if taken now. Young stock for sale. **MRS. WILLIS HOUGH, Pine Crest Farm, Royal Oak, Mich.**

Barred Rock Eggs—Great Laying Strain and prize winners, 15 eggs, \$1.00; 30, \$1.75; 100, \$5. **W. C. Coffman, R. 6, Benton Harbor, Mich.**

S. C. Rhode Island Reds of quality. Eggs from first pen headed by Red Cloud \$2 per 15; Range \$1 per 15; \$5 per 100. **E. J. MATHEWSON, Nottawa, Mich.**

DOGS.

30 Pure Bred Fox Hound Pups ready to ship in May and June. Some trained hounds. Send stamp. **W. E. Lecky, Holmesville, Ohio.**

MARKETS

DETROIT WHOLESALE MARKETS.

August 7, 1912.
Grains and Seeds.

Wheat.—The past week the wheat trade has been favorable to the bears, although the close on Tuesday showed a steady market on what appeared to traders to be a fighting basis. The main bearish feature was the report from the spring wheat sections of the states and Canada that a large spring wheat crop is now being harvested. There is a counter feeling, however, that the surplus of spring wheat will not supply the shortage of winter wheat. Then, too, cash sales are popular; millers are short on supplies and flour is having an improved demand, both of which give cash wheat a very active market. It is also affected by the demand from abroad, it being estimated that Europe will want 50,000,000 bushels of grain from this side before the supplies from Russia are available. Liverpool has continued firm with gradually advancing prices. The visible supply shows an increase of 713,000 bu., the total number being under 19,000,000 bu., while at this date in 1911 it was 45,000,000 bu. One year ago the price for No. 2 red wheat was 90¢ per bu. Quotations are as follows:

	No. 2	No. 1	Sept.	Dec.
Thursday	1.07	1.06	1.04½	1.06½
Friday	1.06	1.05	1.06	1.08
Saturday	1.06	1.05	1.06	1.08
Monday	1.05½	1.04½	1.05½	1.07½
Tuesday	1.05½	1.04½	1.05½	1.07½
Wednesday	1.05½	1.04½	1.05½	1.07½

Corn.—Corn lost in strength the past week. This is partially due to the declining wheat market, but more to the favorable weather prevailing over the great corn states. The plant appears to have developed wonderfully in the main corn growing sections and so improved the outlook for the new crop that traders are feeling bearish, many heavy holders having unloaded their stock. There was plenty of rain, and although the weather remained cool rapid progress was made in the crop. Up until Tuesday prices for the week suffered a decline of one cent. The visible supply shows a decrease of over 1,000,000 bu. One year ago the price for No. 3 corn was 67¢ per bu. Quotations for the week are:

	No. 3	No. 3
	Corn.	Yellow.
Thursday	76½	78½
Friday	76½	78½
Saturday	76½	78½
Monday	76	78
Tuesday	75½	77½
Wednesday	75½	77½

Oats.—The free offerings of new oats upon the markets in the southern part of the oat growing sections where threshing is on has reduced quotations several cents the past week. The returns from threshing in the states bordering on the Ohio valley are fairly gratifying to the farmers, although it is certain that there will be no bumper crop. The weakness in other grains have a bearish effect upon this trade also. The visible supply shows a slight decrease. One year ago the price for standard oats was 42½¢ per bu. Quotations are as follows:

	Standard.	Sept.
Thursday	61	34½
Friday	60	34
Saturday	58	33½
Monday	55	32½
Tuesday	55	32½
Wednesday	55	32½

Beans.—Both cash and October beans remain steady with a week ago. No transactions are reported on the local market and the quotations given are merely nominal. In some sections of the state damage has been done to the growing crop by excessive rains. Nominal quotations are as follows:

	Cash	Oct.
Thursday	2.60	2.23
Friday	2.60	2.23
Saturday	2.60	2.23
Monday	2.60	2.23
Tuesday	2.60	2.23
Wednesday	2.60	2.23

Clover Seed.—Quotations for October clover seed regained the loss of last week and remained steady since last Friday at the advanced price. There is very little doing in the market but dealers seem to feel, from present indications, that prices will not rule extremely low this coming year. Following are the quotations:

	Prime Oct.
Thursday	\$9.75
Friday	9.85
Saturday	9.85
Monday	9.85
Tuesday	9.85
Wednesday	9.85

Rye.—No change has been made in the price for No. 2 rye, which is 73¢ per bu. Practically no transactions are being made on the local rye market.

Flour, Feed, Potatoes, Etc.
Flour.—Prices are steady, with the demand improved.
Straight \$2.60
Patent Michigan 5.80
Clear 5.00
Rye 5.00

Feed.—The market is steady. Carlot prices on track are: Bran, \$26 per ton; coarse middlings, \$28; fine middlings, \$31; cracked corn and coarse corn meal, \$32; corn and oat chop, \$31 per ton.

Hay and Straw.—Hay has advanced while straw is steady. Quotations: No. 1 timothy, \$23.50@24; No. 2 timothy, \$21.50@22; clover, mixed, \$16@22.50; rye straw, \$10.50@11; wheat and oat straw, \$9.50@10; new timothy, \$18@19 per ton.

Potatoes.—A substantial increase in the supply of potatoes has caused prices to decline. Liberal offerings from a much wider territory are now getting to the

markets. The ruling price for southern offerings is \$3 per bbl.

Provisions.—Family pork, \$19@20.50; mess pork, \$19; clear, backs, \$19.50@20.50; hams, 15½@16¢; briskets, 12½@13¢; shoulders, 11½¢; picnic hams, 11@11½¢; bacon, 14@16¢; pure lard in tierces 11½¢; kettle rendered lard, 12½¢ per lb.

Dairy and Poultry Products.
Butter.—The demand for butter continues very active, while the supply shows signs of decreasing. Prices remain steady with those of a week ago and the volume of trade is large. Quotations are: Extra creamery, 26½¢; first creamery, 25½¢; dairy, 21¢; packing stock, 19¢ per lb.

Eggs.—There is an urgent demand for fresh eggs with the supply decreasing and quotations showing a fractional advance. Current receipts, candled, are now quoted at 20½¢ per dozen, which is ¼¢ above last week's quotation.

Poultry.—Lower prices rule for broilers, chickens, hens, turkeys and geese. Other grades and kinds rule steady. There is only a small amount of trading. Following are the leading quotations: Broilers, 17@18¢; chickens, 12@12½¢; hens, 12@12½¢; No. 2 hens, 9@10¢; old roosters, 9@10¢; turkeys, 16@18¢; geese, 10@11¢; ducks, 14¢; young ducks, 15@16¢ per lb.

Veal.—All grades steady. Fancy, 11@12¢ per lb; choice, 8@9¢.

Cheese.—Steady. Michigan flats, 16@17¢; York state flats, 17@18¢; Limburger, 17@19¢; domestic Swiss, 22@23¢; brick cream, 17½@18¢.

Fruits and Vegetables.
Cherries.—Both kinds are lower. Sour quoted at \$1.75@2; sweet, \$2 per 16-qt. case.

Raspberries.—Reds selling at \$5@5.50 per bu; black, \$1.40@1.50 per 16-qt. case.

Blackberries.—Higher. Ruling quotations are \$1.75@2 per 16-qt. case.

Huckleberries.—Selling at \$3.25@3.75 per bushel.

Honey.—Choice to fancy comb, 15@16¢ per lb; amber, 12@13¢.

Apples.—New apples are quoted at \$4@5 for fancy, and \$2.50@3 per bbl. for common.

OTHER MARKETS.

Grand Rapids.

About 400 loads of produce were sold on the city market Tuesday morning. Potatoes were in good demand, selling at 75¢@90¢. Turnips, carrots and beets went at 10¢; cabbage, 30¢; cucumbers, 25¢; beans, \$1; sweet corn, 15¢; celery, 15¢. Hay is in good supply, selling at \$12@15. Blackberries are worth \$1.60@1.75; early apples, 75¢@1.25. Dealers are paying to the country trade 18¢ for eggs and 21¢ for dairy butter. Wheat is worth around \$1; beans, \$2.20; dressed hogs are higher, bringing 10@11¢.

Chicago.

Wheat.—No. 2 red, \$1.00@1.03; Sept., 92½¢; Dec., 92½¢.
Corn.—No. 3, 72½¢@73½¢; Sept., 66½¢; Dec., 55½¢.

Oats.—No. 2 white, old, 40@45¢; new, 33½@34½¢; Sept., 30¢; Dec., 31¢.

Butter.—Market barely steady under a quiet, indifferent demand. Quotations: Creameries, 23@25¢; dairies, 21@24¢ lb.

Eggs.—A fair demand is holding this market steady, last week's figures ruling. Quotations: Firsts, 18¢; ordinary firsts, 16¢; at mark, cases included, 15@16¢ per dozen.

Potatoes.—A price decline of 3@10¢ has occurred during the week, due to increased offerings. Early Ohio from Kansas and Missouri are quoted at 70@72¢ per bu; Illinois stock, 65@68¢; Minnesotas, 60@67¢.

Beans.—Market continues quiet. Quotations, largely nominal, are as follows: Pea beans, choice, hand-picked, \$2.85@2.88 per bu; prime, \$2.75@2.78; red kidneys, \$2.50@2.60.

Hay and Straw.—No changes of consequence since last week. Quotations are: Timothy, choice, \$23@24; No. 1, \$21@22; No. 2 and No. 1 mixed, \$17@18.50; clover, \$7@10; No. 2 and no grade, \$5@9; alfalfa, choice, \$13.50@14; No. 1, \$12@12.50; No. 2, \$10@11. Straw.—Rye, \$10.50@11; wheat \$7.50@8.50; oat, \$7.50@8.50.

New York.

Butter.—Market easy with prices fractionally lower. Demand is largely for current consumption. Quotations are: Creamery, special extras, 26½@27¢; do. firsts, 25½@26½¢; do. seconds, 24@25¢; factory, current make, firsts, 22@22½¢.

Eggs.—Market firm. Demand and supply are normal; some grades slightly higher. Fresh gathered extras, 23@24½¢; extra firsts, 20@22¢; firsts, 18½@19½¢; western gathered whites, 20@25¢ per doz.

Poultry.—Dressed, unsettled; broilers lower. Western broilers, fresh killed, 17@25¢; fowls, 14½@17¢; turkeys, 16@17¢ per lb.

Elgin.

Butter.—Market is firm at 25¢ per lb., which is the quotation of one week ago.

Boston.

Wool.—While the volume of business the past week was not quite so large as that of the previous period, the strong tone that has characterized this market for some months past still prevails and there is substantial ground for believing that quotations will be advanced. Grading of new wools is progressing and it shows an unusually large amount of high-grade wools. This is making it easier for the manufacturers to give the high prices which are asked by dealers. One manufacturer is reported to have taken 2,000,000 lbs. from a Boston broker and 1,000,000 lbs. from the Philadelphia market, the consignment being of Ohio fleeces and the quotation was 30¢ per lb. This large transaction has helped to fix prices. Dealers who make a specialty of fleece wools are well sold ahead, indicating an active demand for the product of the fleece states.

THE LIVE STOCK MARKETS.

Buffalo.

August 5, 1912.
(Special Report of Dunning & Stevens, New York Central Stock Yards, East Buffalo, New York).

Receipts of live stock here today as follows: Cattle, 237 cars; hogs, 85 double decks; sheep and lambs, 50 double decks; calves, 2,500 head.

With 237 cars of cattle on our market here today, and 22,000 reported in Chicago, a few loads of the best heavy weight cattle sold about steady with last Monday, also a few of the best butchers sold about steady with last Monday. All other grades of killing cattle sold from 25@40¢ per cwt. lower than last week.

We quote: Best 1,300 to 1,500-lb. steers \$8.50@9.15; good prime 1,200 to 1,300-lb. steers, \$8.50@8.75; do. 1,100 to 1,200-lb. do., \$8.15@8.40; medium butcher steers, 1,000 to 1,100, \$7.10@7.40; butcher steers, \$50 to 1,000, \$6.25@6.50; light butcher steers, \$5.50@6; best fat cows, \$5.50@6; good to prime do., \$4.75@5.50; fair to good do., \$3.75@4.75; common to fair do., \$3@3.50; trimmers, \$2.50@3; best fat heifers, \$7@7.50; good to prime heifers, \$6.25@6.75; fair to good do., \$5@5.50; light butcher heifers, \$4.50@5; stock heifers, \$4@4.25; best feeding steers, dehorned, \$5@5.25; common feeding steers, \$4@4.50; stockers, inferior, \$4@4.25; prime export bulls, \$6@6.25; best butcher bulls, \$5@5.50; bologna bulls, \$4.25@4.75; stock bulls, \$4@4.50; best milkers and springers, \$5@6; common kind do., \$2.50@3.50.

Hog receipts today were fully up to expectations, 85 double decks on sale. Demand at the opening was rather limited, and early prices a shade lower than Saturday, the bulk of the best selling at \$8.75@8.85, the \$8.70 hogs being quite weighty. All mixed grades \$8.85, with a few at \$8.90, and one load of fancy on the closing market at \$8.95. Ordinary grades of hogs, such as state hogs and grassers sold from \$8.50@8.70; pigs and lights, \$8.60@8.70; roughs, \$7.25@7.50; stags, \$5.25@6.50. Trade closed strong here today, and with a good clearance we predict a good market for the next few days.

The lamb market was active and prices about the same as the close of last week; most of the choice spring lambs selling from \$7.50@7.75. Yearlings at \$6@6.50. The sheep market was also active; most of the best light ewes selling from \$4.25@4.50; wethers, \$5@5.50. Look for about steady prices on both sheep and lambs the balance of the week.

We quote: Choice spring lambs, \$7.50@7.75; cull to fair do., \$5.50@6; yearling lambs, \$6@6.60; bucks, \$2.50@3; wethers, \$5@5.50; hardy ewes, \$4.25@4.50; heavy ewes, \$4@4.15; cull sheep, \$2@3; veals, choice to extra, \$9.75@10; fair to good do., \$7.50@9.50.

Chicago.

August 5, 1912.
Cattle. Hogs. Sheep.
Received today 23,000 32,000 28,000
Same day last year 24,569 32,081 23,316
Received last week 50,565 120,967 121,604
Same week last year 59,081 117,184 89,376

Prime heavy beef cattle sold today at the highest prices ever recorded in the regular market, an early sale at \$9.95 being followed later by 14 Iowa steers that averaged 1,583 lbs. at \$10.05 and subsequently by the sale of 74 fancy Illinois black steers averaging 1,505 lbs. at \$10.10. The top last week was \$9.85. Receipts today embraced about 2,000 western range cattle, and they sold well, the best lots fetching \$8.10 to \$8.25, 21 cars bringing these figures. These are the highest prices ever recorded for range steers, last year's top being \$7.90. Hogs are 10@15¢ higher today, most of the trading being done at \$7.50@8.60. The market is animated, with a large shipping demand. Hogs marketed last week averaged in weight 241 lbs., compared with 236 lbs. a year ago, 254 lbs. two years ago and 229 lbs. three years ago. These are the highest prices of the year. Sheep and lambs are fairly active at about steady prices, the receipts embracing about 3,000 lambs shipped direct from Louisville to packers.

Cattle receipts last week showed good increases over the abnormally small supplies of the preceding week, although far from large compared with other years, and early in the week prices ruled still lower for lots that were not fat. Later in the week much smaller offerings caused an upward movement, and prime heavy beefs brought the highest figures recorded in a period of 40 years, both corn-fed and distillery-fed steers bringing \$9.85. The week's sales took place largely at \$7.40@9.40, and Wednesday's run of 16,536 head embraced a good percentage of choice fat cattle. The largest receipts were 20,928 on Monday. The poor to fair lots of grass-fed light-weight steers have been selling at \$5.60@7, while choice heavy steers sold at \$9.50 and upward, with a good class of weighty corn-fed steers bringing \$8.50 and upward and prime long yearlings averaging 1,133 lbs. bringing \$9.40. The first receipts of western range cattle for the year arrived and sold at \$7.40@7.65 for South Dakota steers. They were of good quality for such early marketing. Native butchering cattle had a good outlet, with cows and heifers selling at \$4.35@8.25, while scattering sales were made of a few head of prime heifers at \$8.50@9. Cutters brought \$3.25@4.30, canners \$2.40@3.30 and bulls \$3.50@7. Calves of the better class shared in the boom, selling up to \$10.25, with sales all the way down to \$4 for coarse heavy lots. It was impossible to do a large business in stockers and feeders, as the offerings were limited, with particularly few of the better class on sale. Furthermore, buyers were not attracted by the higher prices charged for the best lots. Stock steers sold at \$4.25@6.25 and feeders at \$5.60@7.25, with stock and feeder heifers salable at \$3.85@5.25. Packer competition has been

the chief hindrance to the feeder buyers' plans for weeks, and most buyers do not care for inferior feeding cattle. These descriptions have been declining in price, with larger offerings. Milksters and springers have sold fairly at \$35@75 per head, demand centering in the better class.

Hogs have shown a much firmer undertone of late than a few weeks earlier in the season, when the eastern shipping demand was on a much smaller scale, although natural reactions followed the remarkable boom that landed prime hogs of the lighter shipping class at \$8.50. Conditions have changed radically within a comparatively short space of time, with eastern shippers competing with the Chicago packers for the better class of hogs, and the enormous falling off in western packing operations for the summer season is exerting a powerful influence in making values for properly matured hogs. Consumption of fresh pork is one of the big factors in strengthening prices for the raw material, and there is also a large call for cured hog products. The accumulations of provisions in Chicago warehouses are decreasing in volume, amounting on August 1 to 146,104,233 lbs., compared with 163,126,026 lbs. a month earlier and 127,538,881 lbs. a year ago. The range of prices for hogs has widened out very greatly, as is usual at this season, with prime butcher weights of the lighter weights at the top and grass hogs selling at a big discount. The week closed Saturday with hogs selling at \$7.20@8.45 as the extreme range, while stags sold at \$8@8.50, boars at \$3.50@4.25, pigs at \$6.50@7.90, throwout packing sows at \$6.50@7 and government throwouts at \$2.50@6.40. The bulk of the hogs sold around \$7.55@8.20.

Sheep and lambs have been marketed very much more freely for a week past, with liberal runs from the ranges of Idaho, Montana, Oregon and Washington, and Monday's fair advance in choice lots was followed by sharp declines on subsequent days. On the opening day tops stood at \$7.85 and range lambs, \$5.65 for range yearlings and \$4.50 for fancy heavy Idaho range ewes. Native lambs and native ewes were marketed with considerable freedom and averaged decidedly lower in price. Feeder and breeder offerings were in unabated demand, however, and sold extremely well, choice black-face Washington feeding lambs advancing to \$6 per 100 lbs. Leading Missouri river markets received large runs of sheep and lambs, and Louisville received great numbers of southern lambs, many of which were reshipped from there direct to Chicago packing houses. The decline was largely in the less attractive offerings. Later there was a rally in prices for choice flocks, with closing values as follows: Lambs, \$5@7.80; yearlings at \$4@5.50; wethers at \$3.50@4.75; ewes at \$1.50@4.25; bucks at \$2.50@3.25. Breeding ewes sold at \$4@5.25, and feeders paid \$5.25@6 for lambs; \$4.10@4.75 for yearlings; \$3.50@4 for wethers, and \$2.25@3 for ewes.

Horses have been arriving for several weeks in much smaller numbers than a year ago, and the percentage of choice extra heavy drafters, the ones most frequently called for, has been very small. Hence, such animals continue to sell as high as they ever did, quotations ruling at \$250@325 per head. A cheaper class of lighter weights sells at \$175 and upward, while inferior light horses go at \$75@100. Eastern buyers are showing up in only moderate numbers, and their purchases are apt to be on a limited scale. The bulk of the daily offerings consist of rather ordinary horses.

LIVE STOCK NOTES.

Thousands of Michigan, Ohio, Indiana, Iowa, Wisconsin, Illinois and other farmers of the country are thinking of feeding some lambs the coming season, and those who have held off in the expectation that they would be able to secure flocks of range lambs for this purpose at reasonably low prices are likely to be disappointed. In sizing up the range country, it is found that there is a decided shortage, the lamb "crop" being greatly short in most of the sections where it has been customary in former years to look for feeders. The lamb "crop" was seriously short in Colorado, and while New Mexico fared better, the "crop" in that state was below an average. And looking over the northwestern states, the supply will be found to be short. Lambs that were fed and marketed the past spring closed the season at such good prices that many farmers became anxious to go into the industry once more, and a bumper corn crop would vastly stimulate the demand for feeders.

Large numbers of sheep from New Mexico have been arriving in the Kansas City stock yards recently, and they have been largely of good quality. Arizona flocks have not been plentiful this season so far, however, in the Kansas City market, and the percentage of fat flocks is small, this being due to the drouth of the winter and early spring. However, range conditions in both New Mexico and Arizona are now reported as good, and there is a prospect for a fair marketing of fall lambs from both states before long. By the middle of this month Utah flocks will be marketed with some freedom.

MICHIGAN HAY ASSOCIATION.

The annual meeting of the Michigan Hay Association will be held at Saginaw, August 15-16, with headquarters at the Hotel Vincent. A general invitation is extended to all the hay and grain men in Michigan and other states and to all growers of hay and grain as well, who are interested in the buying and selling of these commodities. As this will be the last opportunity that buyers and sellers will have to meet and compare notes before the new crop begins to move, they will be repaid for their time and expense necessary to attend this meeting.

THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.
August 8, 1912.

Cattle.

Receipts, 1,737. Butcher grades selling from \$4.50@6; 15@25c lower; all others steady at last week's prices.

We quote: Extra dry-fed steers and heifers, \$8@8.25; steers and heifers, 1,000 to 1,200, \$6.25@7.50; do. 800 to 1,000, \$5@6.25; grass steers and heifers that are fat, 800 to 1,000, \$5@6.25; do. 500 to 700, \$4@4.75; choice fat cows, \$4.75@5; good fat cows, \$4.25@4.50; common cows, \$3@3.75; canners, \$2@3; choice heavy bulls, \$4.50@4.75; fair to good bolognas, bulls, \$4@4.25; stock bulls, \$3.25@3.75; choice feeding steers, 800 to 1,000, \$4.75@5.25; fair feeding steers, 800 to 1,000, \$4.25@4.75; choice stockers, 500 to 700, \$4.50@4.75; fair stockers, 500 to 700, \$3.75@4.25; stock heifers, \$3.25@4; milkers, large, young, medium age, \$40@60; common milkers, \$25@35.

Haley & M. sold Mich. B. Co. 3 bulls av 940 at \$4.50, 1 do weighing 1,260 at \$4.75, 2 cows av 953 at \$4, 2 heifers av 860 at \$5.50; to Sullivan P. Co. 11 butchers av 660 at \$4.30, 8 do av 906 at \$5.25, 1 cow weighing 870 at \$3.50, 6 cows and bulls av 1,010 at \$4.50; to Kamman 11 butchers av 651 at \$4.65, 20 do av 803 at \$5.55; to Bresnahan 2 cows av 840 at \$3.25, 5 do av 864 at \$3.15; to Regan 9 butchers av 538 at \$4; to Newton B. Co. 26 stockers av 454 at \$4, 2 do av 660 at \$4.50, 10 feeders av 762 at \$4.80, 3 do av 643 at \$5, 2 cows av 935 at \$4.25, 1 steer weighing 860 at \$4.75, 1 cow weighing 980 at \$3.25, 11 butchers av 700 at \$4.25; to Schuman 18 steers av 861 at \$6.10; to Sullivan P. Co. 2 cows av 1,090 at \$4.35; to Schlischer 18 butchers av 724 at \$4.60.

Roe Com. Co. sold Sullivan P. Co. 10 butchers av 915 at \$5.25, 3 cows av 977 at \$3.25, 3 bulls av 950 at \$4.50, 3 do av 1,037 at \$4.50, 2 do av 985 at \$4.25; to Bresnahan 3 cows av 877 at \$3.50, 2 do av 1,050 at \$2.50, 17 stockers av 500 at \$4; to Parker, W. & Co. 6 butchers av 740 at \$5; 1 cow weighing 750 at \$4; to Mich. B. Co. 4 butchers av 592 at \$4.25, 6 do av 718 at \$5; to Goose 9 do av 490 at \$3.80.

Spicer & R. sold Sullivan P. Co. 1 cow weighing 790 at \$3.25, 2 cow and bull av 1,240 at \$6, 2 butchers av 880 at \$5.75; to Mich. B. Co. 6 cows av 966 at \$4.25, 1 bull weighing 860 at \$4.50; to Morgan 8 stockers av 533 at \$4.50, 2 do av 530 at \$4.50; to Kamman B. Co. 12 butchers av 860 at \$5.35; to Applebaum 6 do av 577 at \$3.85, 17 do av 610 at \$4.15; to Bresnahan 3 cows av 833 at \$3.25; to Goose 31 do av 825 at \$5.75, 31 do av 800 at \$5.75, 23 do av 724 at \$5.15, 1 bull weighing 880 at \$4, 1 do weighing 1,160 at \$4.50, 11 steers av 909 at \$6.50, 11 do av 700 at \$5, 5 cows av 782 at \$4, 3 heifers av 620 at \$4, 11 do av 652 at \$4.75, 2 steers av 980 at \$6.50; to Newton B. Co. 8 stockers av 440 at \$3.75, 4 do av 512 at \$3.75.

Bishop, B. & H. sold Breitenbeck 9 cows av 963 at \$4.75; to Sullivan P. Co. 2 bulls av 1,065 at \$4.25, 4 cows and bulls av 857 at \$4.50, 6 butchers av 855 at \$5.50; to Regal 29 feeders av 724 at \$5, 27 do av 726 at \$5, 3 do av 770 at \$4.50, 10 stockers av 564 at \$4.50, 7 do av 580 at \$4.75; to Hammond, S. & Co. 1 bull weighing 760 at \$4, 5 heifers av 790 at \$5.50, 3 butchers av 731 at \$4.50, 4 cows av 990 at \$3.60, 2 steers av 895 at \$5, 2 bulls av 810 at \$4.25, 2 steers av 840 at \$5.75, 6 butchers av 790 at \$4.40, 2 bulls av 725 at \$3.75; to Bresnahan 14 stockers av 500 at \$4, 4 cows av 942 at \$3.25, 3 do av 907 at \$3, 11 do av 790 at \$3, 3 do av 743 at \$3.25, 3 do av 840 at \$3.25, 3 bulls av 953 at \$4.50; to Austin 3 stockers av 540 at \$4.65, 2 do av 670 at \$4.75; to Morgan 15 do av 617 at \$5; to Goose 17 butchers av 615 at \$3.85, 3 do av 560 at \$3.75; to Fromm 12 do av 862 at \$4.65, 2 cows av 725 at \$3, 2 do av 830 at \$4, 4 heifers av 555 at \$4.50, 2 steers av 925 at \$5.90; to Parker, W. & Co. 6 bulls av 860 at \$4.25.

Weeks sold Sullivan P. Co. 10 butchers av 831 at \$4.90, 2 canners av 900 at \$2.75, 2 bulls av 970 at \$4.40, 1 do weighing 1,470 at \$5.

Veal Calves.

Receipts, 717. Market steady at Wednesday and last week's close. Best, \$9@10; others, \$4@8.

Roe Com. Co. sold Mich. B. Co. 13 av 200 at \$3, 3 av 215 at \$8.50, 5 av 225 at \$5, 1 weighing 300 at \$3.50, 2 av 210 at \$8.50, 4 av 225 at \$4.50; to Sullivan P. Co. 22 av 170 at \$9; to Goose 1 weighing 300 at \$3.50.

Bishop, B. & H. sold Parker, W. & Co. 1 weighing 370 at \$6, 6 av 165 at \$8.50; to Sullivan P. Co. 1 weighing 130 at \$9, 4 av 155 at \$9.25, 10 av 181 at \$8.75, 2 av 275 at \$6, 15 av 160 at \$9, 2 av 185 at \$8.50, 2 av 215 at \$4.50, 8 av 130 at \$8.50; to Goose 8 av 250 at \$4; to Parker, W. & Co. 28 av 155 at \$8.75; to Field 2 av 155 at \$9; to Rattkowsky 3 av 185 at \$9.40; to Bray 3 av 170 at \$9.25; to Sullivan P. Co. 12 av 185 at \$5, 20 av 155 at \$8.50, 2 av 140 at \$9.50, 2 av 250 at \$6, 4 av 140 at \$9, 4 av 155 at \$9.50; to Bray 11 av 200 at \$5, 9 av 150 at \$7; to Goose 10 av 226 at \$4.25, 7 av 150 at \$8, 9 av 140 at \$6; to Friedman 4 av 150 at \$9.50, 3 av 140 at \$5.65; to Burnstine 4 av 155 at \$9, 9 av 170 at \$9.75.

Haley & M. sold Bray 16 av 140 at \$7.25, 5 av 150 at \$6, 9 av 150 at \$8; to Parker, W. & Co. 2 av 165 at \$7.50, 7 av 135 at \$8.50, 2 av 225 at \$6, 3 av 140 at \$7.50; to Goose 6 av 155 at \$8; to D. Goose 2 av 250 at \$5, 5 av 140 at \$7.25, 7 av 165 at \$5, 15 av 160 at \$8; to Shefel 6 av 500 at \$5.

Spicer & R. sold Rattkowsky 6 av 145 at \$5.25; to Mich. B. Co. 3 av 175 at \$3, 1 weighing 130 at \$7, 2 av 150 at \$8.50; to Bray 2 av 320 at \$4, 4 av 150 at \$7; to Goose 5 av 210 at \$5.50; to Rattkowsky 2 av 125 at \$6, 6 av 140 at \$8; to Hoffend 5 av 165 at \$7.50.

Sheep and Lambs.

Receipts, 2,511. Market steady with Wednesday and last week's close. Best lambs, \$6@6.50; fair to good lambs, \$4@5; light to common lambs, \$3.50@4.50; fair to good sheep, \$3.25@3.50; culls and common, \$2@3.

Bishop, B. & H. sold Sullivan P. Co. 10 lambs av 61 at \$6.50, 16 sheep av 109 at \$3.50, 12 do av 115 at \$3, 15 lambs av 75 at \$4, 8 do av 60 at \$6, 10 sheep av 102 at \$3; to Hammond, S. & Co. 22 lambs av 75 at \$6.50, 5 sheep av 105 at \$2.25, 14 do av 110 at \$3.25, 37 lambs av 70 at \$6.85; to Thompson Bros. 11 sheep av 115 at \$3.25; to Vasco 23 lambs av 65 at \$5.75; to Hammond, S. & Co. 22 do av 60 at \$3.25; to Sullivan P. Co. 14 do av 75 at \$6.75; to Fitzpatrick Bros. 47 lambs av 73 at \$6.50, 8 do av 70 at \$6.50, 43 do av 75 at \$6.50, 9 do av 70 at \$6.50, 66 do av 90 at \$3.25; to Sullivan P. Co. 40 lambs av 50 at \$4.25, 10 do av 52 at \$5, 48 do av 70 at \$6.50; to Young 26 do av 70 at \$5.50; to Hammond, S. & Co. 30 do av 80 at \$6.65, 12 do av 60 at \$5.50; to Barlage 42 do av 65 at \$5.25; to Fitzpatrick Bros. 30 do av 80 at \$4, 17 do av 50 at \$5.

Haley & M. sold Hoyt 26 lambs av 72 at \$6.25, 30 do av 70 at \$6.25, 27 do av 55 at \$4.75, 9 do av 60 at \$4.50, 35 do av 75 at \$6.25, 17 do av 57 at \$5, 13 do av 55 at \$4.50; to Breitenbeck 29 sheep av 110 at \$2.75, 80 lambs av 75 at \$6; to Mich. B. Co. 5 sheep av 84 at \$2.50; to Bray 16 lambs av 85 at \$4.50, 2 do av 80 at \$4.50, 25 do av 70 at \$6.50, 20 sheep av 105 at \$8.75.

Roe Com. Co. sold Mich. B. Co. 1 buck weighing 160 at \$2.50, 9 sheep av 85 at \$3.25, 41 lambs av 67 at \$6.

Spicer & R. sold Thompson Bros. 10 sheep av 102 at \$2.50, 28 do av 105 at \$3.30; to Sullivan P. Co. 2 do av 120 at \$3, 25 lambs av 65 at \$6.50; to Rattkowsky 2 sheep av 105 at \$3.25; to Bray 7 lambs av 68 at \$5; to Newton B. Co. 10 do av 52 at \$4.50, 49 do av 70 at \$6.50.

Hogs.

Receipts, 1,263. Market 10@15c higher than Wednesday or last week's close.

Range of prices: Light to good butchers, \$8.25; pigs, \$7.50@8; light yorkers, \$8@8.25; stags one-third off.

Bishop, B. & H. sold Parker, W. & Co. 120 av 200 at \$8.25, 517 av 180 at \$8.20, 270 av 160 at \$8.15, 100 av 140 at \$8.10.

Spicer & R. sold Hammond, S. & Co. 150 av 180 at \$8.25, 30 av 170 at \$8.15.

Roe Com. Co. sold Sullivan P. Co. 135 av 200 at \$8.25, 85 av 190 at \$8.15, 74 av 170 at \$8.10.

Friday's Market.

August 2, 1912.

Cattle.

Receipts this week, 2,433; last week, 1,911; market steady at Thursday's decline. We quote: Best steers, \$7.50@7.75; steers and heifers, 1,000 to 1,200, \$6.25@7; do. 800 to 1,000, \$5@6; grass steers and heifers, that are fat, 800 to 1,000, \$5@6; do. 500 to 700, \$4.50@5; choice fat cows, \$4.75@5; good do., \$4.50; common cows, \$3.25@3.75; canners, \$2@3; choice heavy bulls, \$4.50; fair to good bolognas, bulls, \$4@4.25; stock bulls, \$3.50@3.75; choice feeding steers, 800 to 1,000, \$4.75@5; fair feeding steers, 800 to 1,000, \$4@4.25; choice stockers, 500 to 700, \$4.25@4.60; fair stockers, 500 to 700, \$3.75@4.25; stock heifers, \$3.25@4; milkers, large, young, medium age, \$40@65; common milkers, \$20@30.

Veal Calves.

Receipts this week, 1,167; last week, 1,539. Market steady at Thursday's close; 50c lower than opening; best, \$9@9.50; others, \$4@8.

Sheep and Lambs.

Receipts this week, 3,632; last week, 4,390. Market steady at Thursday's prices. Best lambs, \$6.50@6.75; fair to good lambs, \$5@6; light to common lambs \$4@5; yearlings, \$4@4.75; fair to good sheep, \$2.75@3.50; culls and common, \$1@2.50.

Hogs.

Receipts this week, 2,609; last week, 3,329. Market 5@10c higher than on Thursday. Range of prices: Light to good butchers, \$8.35@8.40; pigs, \$7.75@8.25; light yorkers, \$8@8.40; stags one-third off.

There has been no occasion for any one interested in the Chicago horse market to complain of any slackness in the demand for high-grade drafters or the prices for such animals in recent weeks. On a recent day a New York buyer shipped out a car load that cost him very close to \$320 per head on an average, and a buyer from Maine left the same day with a lot that cost more than that. Included in the Maine shipment there was a pair of grade Clydesdales that aggregated in their weight 3,850 lbs. On another day a Boston buyer purchased a car load of chunks at an average price of \$230 per head, the tops costing as high as \$280, and none were what could be called heavy.

Hog cholera still prevails in parts of Illinois and Iowa, and ravages and fear of the disease are responsible for the recent shipment to market of pigs by the car load at Chicago. The pigs were of a thrifty class and such as many farming districts that were devastated by swine plague last autumn would be glad to have, as they would have made fine growth on the rich grass. But owners of the pigs were unwilling to accept any chances of their dying from disease and marketed them at once.

England has stopped the importation of cattle from Ireland owing to the outbreak of foot and mouth disease, but most of the stall-fed Irish beefs have been marketed already, and American cattle are much too high to be available for the British markets.

VETERINARY.

(Continued from page 98).

short time I succeeded in getting her on foot and walked her some 40 rods to the barn. She wobbled and staggered considerably on her way. Our local Vet. was at a loss to know what ailed her and after death we opened her and found nothing wrong inside. What do you believe caused her death and could she have been saved? E. W. D., Sebawa, Mich.—This cow died of brain hemorrhage and could not have been saved. Your other cattle are in no danger.

Articular Rheumatism.—I have a four-months-old colt running in pasture with its mother and three other horses; none are thriving. The colt appears to be stiff and sore, walking very much like a foundered horse. This colt acts languid and is inclined to remain down most of the time. C. R. B., Conklin, Mich.—Give colt 10 grains salicylate of soda at a dose three times a day. This colt should not be exposed to cold rain storms and the rest of your horses should be fed some grain and salted three times a week.

Indigestion—Incipient Heaves.—I have a mare that suffers from indigestion and I believe also has a mild attack of heaves; much worse some days than others. T. V., Midland, Mich.—Feed no clover, or musty, dusty, badly cured fodder; grain and grass is the best food you can feed her. Give 1 oz. bicarbonate soda, ½ oz. ground gentian and ½ oz. ground ginger at a dose in feed two or three times a day. Also give her a dessert-spoonful of Fowler's solution at a dose two or three times a day when her wind is most affected.

Colic—Indigestion.—My twelve-year-old mare is subject to sick spells and it must be either colic or indigestion. These sick spells take place at no regular hour and apparently come on suddenly. They do not last long and I might add that she keeps a standing position continually, when well. C. A. R., Omina, Mich.—Give your mare ½ oz. of ground ginger, ½ oz. ground gentian and ½ oz. bicarbonate soda at a dose in feed twice a day. It is possible to prevent her sickness by changing her food supply.

Lumbago—Torpid Kidneys.—I have a colt that wintered with its mother and was weaned the first of March. This colt thrived until the middle of April, when he began to refuse his feed, was turned on pasture some time later, but has not thrived well since. His back is perhaps weak, as I notice he usually makes several efforts before getting up. He is also much duller than my other colts, and with his urine he passes a yellow sort of material. E. H., Lake Odessa, Mich.—Give colt 15 grs. powdered nitrate potash and 10 grs. sodium salicylate at a dose three times a day.

Loss of Appetite.—I have a colt 2½ months old that has a very poor appetite and is not thriving. A. D. C., Hesperia, Mich.—Give your colt 3 grs. of quinine at a dose three times a day; also place salt within his reach.

Dilated Teat Canal.—The two fore teats of my two-year-old heifer seem to have a pouch in them which interferes with free flow of milk. This cow's two hind teats are all right and milk flows through them nicely. D. P. R., Kalkaska, Mich.—Nothing can be done to remedy an ailment of this kind, except surgical work and that you could not do. You might try applying iodine ointment three times a week.

Umbilical Hernia.—I have a three-months-old filly that has a soft puffy swelling at navel. This bunch is not sore and the colt is doing well, but I was afraid it might need attention. J. W. B., Bravo, Mich.—Your colt suffers from rupture, which perhaps occurred at or soon after birth and perhaps your best plan is to wait until autumn, then if she has not recovered, have your Vet. operate on her.

Sidebone.—I have a horse that is very lame and my Vet. tells me that he is troubled with what is commonly called sidebone. This horse has shown some tenderness from this bunch for the past two years. I have blistered him with corrosive sublimate blister, but fail to notice any improvement. S. W. W., Clinton, Mich.—The heels of a horse suffering from sidebone should be kept low. Either have him fired or apply one part red iodine mercury and eight parts cerate of cantharides once a week.

Diarrhoea.—Worms.—I have a ten-year-old mare with a two-weeks-old colt by her side and this mare is very much troubled with diarrhoea, the excrement which she passes has a few small worms. M. S., Inkster, Mich.—Give your mare

2 drs. powdered sulphate iron and ½ oz. ground gentian at a dose in feed two or three times a day.

Laminitis.—Four months ago my six-year-old horse got loose and ate a large quantity of corn; 24 hours after he ate the corn he stiffened and has never been well since. His feet were placed in water and kept there for eight days. The soles of both fore feet dropped in center, but the horse is not very stiff. I am inclined to believe that soreness is in feet. B. S., Albion, Mich.—Very little can be done for a horse in this condition. A long run on pasture and blistering coronet three times a month will make him some better, but I do not believe he will ever recover.

Indigestion.—I have some three-months-old pigs running on a piece of low land, and was feeding them milk from cream separator, but a short time ago I found one dead and much bloated. J. N. C., Stanton, Mich.—Your hogs that b'eat up rapidly and die suddenly suffer from acute indigestion, terminating in rupture. Give 5 grs. acid salicylic at a dose in feed three times a day. You must study how to feed them, for their food supply is the cause of their sickness.

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GRANGE

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

THE AUGUST PROGRAMS.

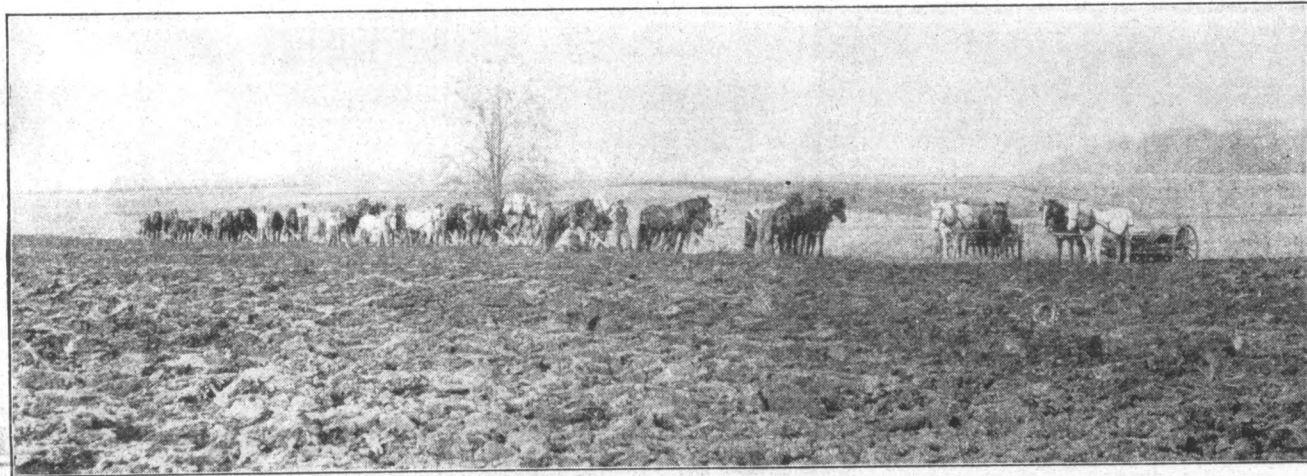
Suggestions for Second Meeting.

The duty of party enrollment.
"Picnic Song," No. 48, in Grange Melodies.
Pointers on picnics.
Recitation, "A Farmer's Judicial Opinion."
"Harvest Song," No. 86, in Grange Melodies.

A tribute to Ceres (each member to bring a contribution of grasses or grains to present to Ceres with a fitting sentiment or quotation).

EXEMPLIFYING THE FRATERNAL SIDE.

The photograph reproduced upon this page shows the manner in which the brothers of Grange No. 1429, of Eaton county, exemplified the fraternal side of Grange life. Last April Peter Edick, a member of this Grange, was unusually unfortunate in not only being sick himself but in having his horses incapacitated by sickness. When it became evident that he would not be able to put in an oat crop, more than a dozen of his Grange brethren organized a bee and,



Patrons of Eaton County Plowing and Seeding a Field to Oats for an Unfortunate Member.

with teams and implements, repaired to his farm. When they departed 15 acres of plowing had been done and 17 acres had been sown to oats. In the presence of such an example of real Grange spirit, comment seems unnecessary. Let us believe that it is but one of many which do not come into public notice.

WHY SOME FARMERS ARE NOT IN THE GRANGE.

With a view to securing the opinions of Grange leaders in various sections of the country as to why a comparatively large number of farmers remain unassociated with the Grange, Bro. J. W. Darrow, a prominent New York patron, recently directed an inquiry to the various state masters. Several of the replies are presented below and they are of value from the fact that in their valiant efforts to build up the organization in their respective states these leaders have met, and in many cases have overcome, about every obstacle that it is possible to present.

State Master Iaylin, of Ohio, whom many Michigan patrons had the pleasure of meeting last winter, says in replying to the inquiry: "I will state some of the reasons that we have encountered in Ohio: The general apathy of farmers. Too many other fraternal and benevolent societies. Opposition to secret societies by certain religious denominations. Too much tenant farming. Co-operative business failures of Granges in the early days of the order. Fear of being rejected on account of personal prejudices of some member of the order. Notwithstanding all these difficulties and others, such as neighborhood quarrels, factional fights and local prejudices, Ohio has done very well, having organized since November 1, 1911, 22 Granges and re-organized two, with a good prospect for more in the future. Farmers must organize for their own protection, education and improvement, and the Grange offers the best way to secure these advantages. We are living in an age of organization. Almost every other business is organized. Individual effort accomplishes little; it is only by united effort that results are obtained. The Grange offers the most practical means for promoting the interests of farmers."

Master C. O. Raine, of Missouri, says: "Because primitive farmers were taught self-independence, and the nature of their work since then has not been such as to make them see the necessity of getting together. Because of the farmer's happy-go-lucky disposition; if matters do not go smoothly today, he works and waits for the better things tomorrow. Because in the central west in the early Grange work the farmer placed implicit confidence in financial co-operation without studying the principles thereof, and when results did not materialize he was humiliated, his friends disgusted and the whole structure wrecked. Because of the opposition by commercial interests in opposition to farm interests for fear that farmers will form a gigantic trust. Because Grange principles and the results of Grange work are not better understood by the average farmer."

THE GRANGE IN OTHER STATES.

Oregon Patrons' Decisive Action on Important Questions.

The State Grange of Oregon, at its annual meeting held in Roseburg, in May last, took a firm stand upon several matters of vital import to the farmers of that state, as well as to those in many other states. Recent agitation of the system of taxation known as the single tax caused the Grange to vigorously condemn and denounce the single tax as an attempt to impair the obligations of contracts, holding that the principle is fundamentally unjust, unreasonable and inconsistent, and that its adoption would

mean ruin to the farmers of the state, without whose success and prosperity the cities could and would not prosper. In the matter of conservation of forests the Grange recommended that the state ask the federal government to locate army camps throughout the government preserves as the basis of a mounted patrol system for the protection of government timber lands. It voiced the opinion, however, that the forests of the different states are a purely local proposition, not an interstate matter, and therefore not subject to the control of the national government; also that state control of forests would tend to develop the resources of a state in a more satisfactory manner than federal control, and the Grange proposed that a campaign of education along this line be inaugurated. Touching the water power problem the Grange favored legislation designed to encourage the production of electrical power in the most inexpensive manner possible, contending that if such power can be made available to the farmer, at a price which he can afford to pay, it will do more to make country life attractive and to check the present rush to the cities than any other convenience that can be brought to the farm. It favored the teaching of agriculture in the public schools, and more liberal appropriations for farmers' institutes. Steps were taken to have presented to the next legislature a measure requiring commission merchants to make itemized statements of produce received and sold during the certain specified periods. The granting of suffrage to the women of the state was favored, the resolution going through without a dissenting vote, and a proposal to consolidate the state university and the agricultural college was vigorously opposed.

The anti-tuberculosis committee of New York State Grange has decided to undertake a campaign that will be featured by an exhibit which will be sent from Grange to Grange until the state is covered. The committee has also under consideration a plan for some one county to institute a campaign to interest subordinate Granges in the employment of a visiting nurse to be paid by the Granges jointly. The committee's report recommending the establishment of a county hospital in each county was adopted at the last meeting of the State Grange.

COMING EVENTS.

Pomona Meetings.

Kent Co., at John Ball park, Wednesday, Aug. 14. Picnic dinner, address by National Grange speaker, and athletic program.
Charlevoix Co., with Bay Shore Grange, Thursday, Aug. 22.
Ingham Co., with Leroy Grange, at farm home of Mr. and Mrs. Clyde Putnam, Friday, Aug. 23.

FARMERS' CLUBS

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—J. D. Leland, Corunna.
Vice-President—D. M. Morrison, St. Johns.
Secretary-Treasurer—Mrs. C. P. Johnson, Metamora.
Directors—C. L. Wright, Caro; E. W. Woodruff, Blanchard; C. P. Johnson, Metamora; H. W. Chamberlain, White Lake; Wm. T. Hill, Carson City; Jerry Spaulding, Belding.

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.

INGHAM COUNTY FARMERS' CLUB HISTORY.

Read by Mrs. W. L. Cheney, on the occasion of the fortieth anniversary of the Ingham County Club, held at M. A. C.

(Continued from last week.)

And now we must speak of some of the large meetings. Prominent among these must be mentioned the two meetings at the Chandler farm, when the

When the numbers outgrew the News editor's sanctum, the Club was furnished rooms free in the Darrow block. The only time rent has ever been paid was when it met in the rooms of the Mason Grange. Finally the common council granted the Club the use of their rooms wherever they might be.

In December, 1898, after having attained the age of 27 years, full grown and old enough to almost care for itself, the Club decided to accept of some help, and thereby continue its same usefulness, if not greater. Accordingly changes necessary were made in the constitution by which the entire family became members and the meetings to be held the second Saturday of each month at the homes of the members. One helpful argument in favor of this place of meeting is learning the geography of our county and seeing the growing crops in the different localities, and to keep in touch with our neighbors who may have some easier way to perform the work than some others. The membership today includes 60 families, extending five miles in each direction from Mason.

At times our list of honorary members has been large and has included men of every vocation of life.

Some of the specials accomplished since 1898 is Woman's Day in November of each year. Some years Young People's Day is celebrated.

October, 1907, we held a fair. The exhibits were of the best, with 350 entries. Then two banquets held in Lansing, one at the home of Judge Weist and the other with Frank L. Dodge.

When the new Presbyterian church was being built in Mason, stone bees were quite the fad, and the Farmers' Club helped this along by adding to the pile in one day 97 loads. The Club ladies also served a chicken-pie dinner in the old church to those who helped.

In some ways this has been a very peculiar association. We believe and know there has been no graft in any office, and especially that of the treasurer. The treasury has never been empty, and the funds for the entire 40 years have been looked after by four men, Wm. Rayner, one year; D. C. Smith, seven years; C. C. Marsh, two years, and the present incumbent, E. C. Russell, 30 years.

The office of president has been filled by three men, D. L. Cady, two years; A. F. Wood, 25 years, and L. H. Ives the past 13 years.

The secretaryship has traveled a little different pace. For a good many years the two offices of the recording and corresponding secretary were filled, but the work was all done by the recording secretary. Finally the offices were merged into one. E. A. Sweet, G. A. Gillespie, W. C. Latta and Col. J. A. Shannon have been secretary at different times, while L. H. Ives used the pen for 22 years, when he was promoted to the presidency. Mrs. J. E. Tanswell has served two years as recording secretary and 11 years as corresponding secretary.

In the early days there were three vice-presidents and six directors, just honorary positions. Today every officer is expected to work. The vice-president is a lady and presides at Woman's Day in November and in the absence of the president. The recording secretary takes care of the clerical work, the corresponding secretary the newspaper reports, and the six directors make up the two committees, program and locating, three serving on each.

During the past 13 years the meetings have been helpful, but perhaps the social side of our natures has been developed more than any other, and as I have read and reflected during the last few days about the early years of this organization, I can not but feel that more scientific work to help the individual farmer was carried on then than now.

Can we not advance a little and take up one or more steps along Club extension by which the Ingham County Farmers' Club will hold to its motto: "Growth is better than permanence, and permanent growth is better than all."

The family of H. A. Hawley was the best represented at the anniversary Club meeting at the M. A. C., there being eight relatives in attendance, including two daughters, a grand-daughter and a great grandson.

NOTICE TO GRANGES AND FARMERS' CLUBS.

We will be pleased to publish in the Michigan Farmer the dates of picnics and gatherings held. Secretaries will kindly advise with date and place at least 10 days in advance.

HORTICULTURE

GRADING APPLES SHOULD BE GIVEN MORE STUDY AND ATTENTION.

The matter of proper grades of apples is one well worthy of agitation and thorough discussion. There seems to be quite a wide divergence of ideas regarding the matter, Michigan growers to a considerable extent not being willing to accept the standards prescribed and largely governing in the general market. The fact of the matter is that Michigan is so favorably situated respecting the general markets and freight rates are so low that most everything in the way of apples can be disposed of at some price, and if we scratch sufficiently below the surface we may find that the reason for this disposition on the part of farmers is that they are too largely inclined to crowd the different grades up higher than conditions will warrant. In the west, where high transportation rates prohibit the shipment of anything but the very best grades, the matter of grading is carried to an extent not thought of in barrel stock, and the growers are the decided gainers by their exact system of grading. The same is true as well in putting up the citrus fruits. But Michigan farmers in their solicitude to dispose of all their fruit are reluctant to accept even the rather loose system established for barrel stock.

This penchant for breaking away from established system is illustrated in a scale of grades which an organization of growers is presuming to set up. It is this:

"No. 1 grade apples shall be picked fruit without bruises $2\frac{1}{4}$ inches or above in diameter for small varieties and $2\frac{1}{2}$ inches or above in diameter on large varieties, free from rot, cracks, scab, scale and worm holes, fruit spots or fungus. No. 2 grade apples shall be $2\frac{1}{4}$ inches or above in diameter with few spots of scale, small scab on blossom end, small cracks; one pin worm hole on side or in blossom end, a little fruit spot or fungus, dropped apples while picking with small bruises allowed in this grade, all free from rot. No. 3 grade apples shall be two inches or above in diameter, picked or windfall with bruises, skin not broken or slightly so, three worm holes, if not too large, with scab, if apple is not deformed and large apples with scale, fruit spot, or fungus all free from rot."

In the regulations made by the International Apple Shippers' Association, and which has become so well established that the system has been recognized in a court decision, a No. 2 apple is one that is perfect and between $2\frac{1}{4}$ and $2\frac{1}{2}$ inches in diameter, of the larger varieties. This is a wise provision, as large and small fruit together does not present nearly so good an appearance as to have the specimens run nearly uniform in size. But these growers leave this grade out entirely. There is a demand, too, in ordinary years for a grade that is slightly scabby, and this grade will go into storage, but it must be without scale, crack or worms. In fact, the skin must not be broken, as this affords an opening for the rot fungus to enter. In some seasons when apples are scarce there may be a demand for some that are below this grade, but in ordinary years very many are of the opinion that it is unwise to put such stuff into barrels. From the present outlook this may be such a year. Barrel stock is high and the government crop report indicates that the crop throughout the country is slightly above the average. It is a question, therefore, if there will not be more profit by putting only the best grades in barrels and sending the balance to the dryer or cider mill, or perhaps shipping in bulk.

The second grade which these growers are preparing to make, which is really a very low grade, is quite indefinite and may be widely construed. For instance, how large may a "small scab" be? From the fact that a "small crack" is permitted we may conclude that it may be of considerable size, for a crack is usually caused by a scab, and a scab spot large enough to cause a crack has gained some proportions. Again, admitting apples with pinworm holes is sure to let the grade down, for a hole of this kind means that a small worm has entered the apple and is at work there and in a short time will emerge, leaving a worm hole of healthy proportions at the point of egress, and discrediting the packer.

There is no one that is more highly interested in maintaining the very highest grades and building up a reputation for quality in the fruit than the growers themselves, and doubtless the very best

way to do this is through organization. The most serious criticism with the grading these people are presuming to establish is that they propose to disregard established and recognized standards and dignify all their scaly and wormy and bruised and cider and cull stuff generally by the term "grades." It is simply an indication of the attitude of farmers in general respecting the matter of grading and serves to emphasize the importance of agitation along these lines.

Allegan Co. EDWARD HUTCHINS.

WHY PLANT LICE ABOUND AND HOW THEY MAY BE CONTROLLED.

I notice in your issue of the 3rd inst. that some people are interested in the reason for the present difficulty with plant-lice. There is a reasonable explanation for their presence this year and their absence last year. Ordinarily plant-lice on apple and many other trees are held in check by small wasp-like parasites which lay their eggs inside the bodies of the lice themselves. The young from these eggs feed on the living bodies of their hosts, and eventually each one spins its cocoon inside the louse on which it has fed.

These parasites are about half as big as the lice and are very quick, active and waspish in their motions. Ordinarily when we have a fairly early spring with quite a little warm weather, early in the season, these parasites will multiply along with the lice and keep them down to such small numbers that no injury will result. However, after a cold, wet spring the lice are usually bad. This is due to the fact that the parasites are more sensitive to weather conditions than are the lice. The lice will go on multiplying when the weather is around about 40 degrees, while the parasites require a much higher temperature to develop. In this way the lice get a start on the parasites and the parasites sometimes do not catch up with them all summer. This year has produced conditions of this kind. Last year the lice were present in just as great numbers to begin with, and the eggs were present on the trees in large numbers but the warm, dry spring boosted the parasites at the same time that it stirred up the lice, and the parasites gained control.

Now the same thing happens with army-worms and cut-worms. These insects are always worse after a cold, wet spring. A few years ago we knew this was so, but did not know why. A study of the influence of temperature on the parasites has made plain the reason why these results obtain.

Now as to the control of these lice. It is, of course, getting late now to do much. Nicotine is the most reliable of all the sprays in use against plant-lice. For green-house work the common nicotine which vaporizes and passes off into the air is very effective. For tree spraying a salt of nicotine called nicotine sulphate has the advantage that it does not pass off into the air nearly so quickly as does the common nicotine. This nicotine sulphate can be diluted a number of hundred times, but as with all contact sprays, the insect must be hit to be killed. This is sometimes difficult where the leaves are badly curled.

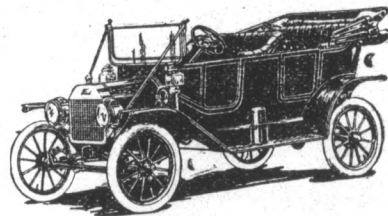
In the article on page 90 of the number referred to, Mr. Geismar is quoted as recommending one pound of tobacco stems, steeped and diluted to eight gallons of water. I feel sure that Mr. Geismar meant one pound of the pure, dry leaves to eight gallons of water, since we have used this strength successfully many times. The tobacco stems which one gets from the factory are very weak indeed, and one must use several pounds to a gallon. The stems have very little nicotine to begin with, and most of this has been sweated and leached before one gets it. It smells strong when cooked up, but the smell does not come from the nicotine since absolutely pure nicotine is almost without odor. If I were to use tobacco stems I would pack them into a wash boiler and just cover them with water; steep half an hour and spray. Perhaps this tea will stand a little diluting but not very much; furthermore, it must be freshly made, since it breaks down easily on standing. If one cannot get nicotine or tobacco tea conveniently, whale-oil soap, one pound to five gallons of water, will kill all that are hit.

Mich. Ag. Col. R. H. PETTIT.

Give the late sowings of radishes, lettuce, turnips, etc., good care that growth may be steady and continuous.



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Woman and Her Needs

At Home, and Elsewhere

FLORAL WORK FOR AUGUST.

BY EVA RYMAN-GAILLARD.

THE hot days of August make winter seem far away, yet it is the month of many duties that can not be shirked by those who would have a fine display of floral beauty during the winter. Space will not permit mention of many, but a few hints as to the most important duties will suggest others.

The last of this month should see all pots and plenty of soil ready for instant use when needed for some of the most tender plants will need to be taken up and potted before there is even a sign of frost. If pots were not thoroughly scrubbed and cleansed when the plants were bedded out in the spring, lose no time in doing the work now. If new ones are to be purchased get them soon enough to allow a thorough soaking in water to remove the dust of the kiln and the odor of burned clay, as the first is injurious to plants and the second disagreeable to those who must inhale it in closed rooms.

If tin or wooden receptacles are to be used paint them some inconspicuous color that will harmonize with the plants, and not fight with the colors of the blossoms. Dull moss or leaf green, or the cream or terra cotta shades usually found in the porous clay pots are always satisfactory and certain shades of brown are very pleasing but an array of brilliant red pots that proclaim their presence from as far as one can see a window are never so.

It is possible to decide during this month as to which plants will be given place in the winter collection and their care, from now on, should be such as will fit them for luxuriant growth or free flowering during the winter, regardless of their appearance in the beds. Keep all buds pinched out and branches pinched back to force the formation of as many side branches as possible and where roots have spread out until they never can be put into a pot of suitable size begin their treatment by cutting, with a sharp spade or knife, down through the roots all around the plant. The severed roots will heal and when the plant is lifted the central ball will be in fine shape to make rapid growth just when it is most desired. Never crowd a mass of roots into a pot too small for them.

Plants that have been kept dormant during a resting period should be given new soil and water, about the last of this month to get them ready for early winter. If they can be lifted from the pots much of the old soil may be removed, but if that is not practicable remove as much as possible from the top and replace with new. In either case, the drier the soil is the more may be shaken out and the plainer the condition of the roots may be seen. If the roots look red and burned remove those that seem injured and then replace the old soil with new.

Very rich soil is not necessary for potted plants, for the reason that many odorless and easily applied plant foods are available but a warm, friable soil and good under drainage are essentials and with these at hand the worker should keep three facts in mind while doing the actual work of potting:

First—Plants grown for the beauty of their foliage need plenty of root-room while those grown for their free-flowering quality produce more and finer blossoms if the roots are restricted to a smaller space and become "pot bound."

Second—Plants having woody stalks are not injured by having the soil slightly lower at the center than around the edges of the pot but with those throwing all leaves from the center of a crown the soil must be higher at the center and allow the water to quickly run to the edges. If allowed to stand in the crown of the plant the disease known as "crown rot" will soon destroy all flower buds and probably kill the plant.

Third—Never fill a pot full of soil unless it has a very large saucer, or can be set into a pan of water to absorb moisture from the bottom. Leave an inch, at least, of space above the soil where water can stand until it soaks

down among the roots. Hundreds of plants make an insignificant appearance merely because the pot is so full of soil that most of the water applied runs off without doing the plant a particle of good, and this is particularly true in the case of hanging pots and baskets.

Leaving plants out until they are chilled almost to the point of actual freezing and then hustling them into pots, any old way, and bringing them directly into the house is fatal to early beauty in the window garden. The chill, the rough handling, or the sudden change from the open air to a fire-heated atmosphere would cause a loss of foliage and a general backset but when a plant is forced to endure all three it takes weeks for it to overcome the effects of the treatment.

Every plant intended for the winter collection should be taken up and potted early enough to permit keeping it outside for a time or, at least, in rooms where doors and windows may be open to make the change from outdoor conditions as gradual as possible. A week sooner than absolutely necessary is better than one hour too late.

Plants from the garden, or those purchased from even the best of dealers, should be kept in quarantine for a time and a strict watch kept for mealy-bug, scale or other insects for, in spite of all care, such plants are very often infested with insects that quickly spread to other plants if placed near them.

The suggestion was made in a former article that Easter and Candidum lily bulbs should be in the soil this month but if the order for them has not gone get it away soon and include in it an order for freesias, paper-white narcissi and other fragrant, free-flowering bulbs that may be forced into bloom in time for Christmas decorations and gifts.

The chrysanthemum is queen of the garden, indoors as well as out, if cared for in a way to bring it to perfection. Directions for pinching out buds were given in the June article but the work must be kept up through this month and soot-tea or liquid fertilizer of some kind should be given every week, the soot-tea being especially good in that it is also a powerful enemy of all root-working insects. Allowing but few buds to develop and giving food for their rapid development is the only way to secure flowers of exhibition quality, and that is the only quality worth aiming for.

Plantain is described by great botanists as being "found near the abode of civilized man in all parts of the world," and we who have to fight it in our lawns realize that it is not only found there but determined to remain there. During certain seasons it must be dug out with a knife or other sharp instrument but during the hot dry days of this month the roots seem to be very near the surface and may be quite easily pulled out, the entire root coming out unbroken. Since learning this peculiarity of the plant I do all my fighting of both the common variety and the black plantain (which is a much worse pest), while I can remove each plant entire by giving it a slight pull.

WINDOW AND DOOR ROLLS.

BY MAE Y. MAHAFFY.

Those who are obliged to live in houses with loosely fitting doors and windows will find this plan a profitable one from the standpoint of fuel expense, and a gratifying one when the dull days of winter make it desirable to sit near the window. Measure the width of the windows and make narrow bags of the needed length, from strong material. Oil cloth is good because the sifting snow and rain will not affect it, but muslin or denim are more easily manipulated. Sew up one end of each bag and fill with salt, bran, sawdust or sand, and overcast the other end closely. As occasion requires one of these rolls may be laid along the sill or on the ledge made by the jointure

of the upper and lower sashes, thus closing the cracks through which the wind blows. The same plan may be utilized for the doors, a loop of tape being attached to each end of the rolls made for the sides of the door and the top, if one is needed there. Place small hooks or nails at each corner of the door frame, and hook the tapes over these, thus keeping the rolls suspended. These rolls, if properly cared for, will last for years, and far more than pay for the slight trouble of making them.

HUMAN WELFARE QUERIES.

Household Editor:—A convalescent has to take a great deal of scalded milk as she can digest little else. She does not like the taste and thinks it makes her bilious. Can you suggest any help?—Home Nurse.

If you chill the milk quickly after scalding it loses a little of the cooked taste most of us dislike. Be sure to scald always in a double boiler where it will not boil nor burn. Add a little salt to prevent its causing biliousness. You can add any flavor the patient likes to hide the taste which is objectionable. If the milk causes constipation give a little magnesia. When the milk is removed from the stove beat for several minutes with an egg beater to whip the scum into the milk. It contains food elements which should not be thrown away.

Household Editor:—Would you be kind enough to reprint the recipe for carpet-bugs. It was in one of last year's papers and I have lost it. It contained chloride of zinc, salt and alum.—Mrs. H. T. B.

I have been unable to find the recipe mentioned. Mix one tablespoonful red pepper with one pint wood alcohol. Spray baseboard and all cracks and thoroughly drench the edges of the rug with the mixture. Leave the room closed for 24 hours after using.

Household Editor:—If "Northern Star" uses spoonfuls as I wrote it she may spoil her pie. It calls for two heaping tablespoonfuls for a large pie. I have some other choice recipes that I can send if you intend to publish a cook's column. Some are original and some old ones. A pinch of salt improves this, as well as all other pies.—Mrs. E. A. C.

(We plan to print only requested recipes.—Ed.)

Household Editor:—Here is a chowder recipe that Mrs. E. A. C. asked for in the Farmer of July 6: One quart of raw cabbage chopped fine, one quart boiled beets chopped fine, two cups sugar, tablespoonful salt, one teaspoonful black pepper, quarter teaspoonful red pepper, one teacup grated horseradish. Cover with cold vinegar and put in cans. It will keep a year.—Mrs. W. H. S., Ionia.

Household Editor:—I saw a request in The Farmer for a recipe for a chowder made of red beets and cabbage. Perhaps this will do: Two quarts beets after they are cooked and chopped, one quart of chopped cabbage, one cup of sugar, one teaspoon of pepper, two tablespoonfuls of salt, with vinegar to cover all.—Mrs. C. L. J.

Household Editor:—We have taken the Michigan Farmer nearly ever since we started housekeeping 28 years ago. Have been something like a sponge, absorbed all the good. Have been especially interested in the Household Department. Have a few years of them when they were in pamphlet form. I miss many of the old contributors, "A. H. J." "Simon's Wife," "Ell. See," and wonder where they are. But I did not come to tell all this. I saw a request from E. A. C. for chowder made from red beets. Here is something we like very much. It was given me for beet relish, possibly may be the same she means. The bright red beets make it look better. Beets, cooked and chopped, one quart; cabbage, raw and chopped, one quart; horseradish root, chopped, one cup; sugar, two cups; salt, one teaspoon. A little pepper and enough vinegar to moisten. I use a food chopper for all and put it in cans cold. Keeps well.

Here is a very simple huckleberry pudding: One egg, one cup of buttermilk, two cups flour, one teaspoon soda, a little salt. First a layer of batter then berries, etc. Steam one hour. Serve with cream and sugar.—A Reader.

FAMILY RUNT

Kansas Man Says Coffee Made Him That.

"Coffee has been used in our family of eleven—father, mother, five sons and four daughters—for thirty years. I am the eldest of the boys and have always been considered the runt of the family and a coffee toper.

"I continued to drink it for years until I grew to be a man, and then I found I had stomach trouble, nervous headaches, poor circulation, was unable to do a full day's work, took medicine for this, that, and the other thing, without the least benefit. In fact I only weighed 116 when I was 28.

"Then I changed from coffee to Postum, being the first one in our family to do so. I noticed, as did the rest of the family, that I was surely gaining strength and flesh. Shortly after I was visiting my cousin who said, 'You look so much better—you're getting fat.'

"At breakfast his wife passed me a cup of coffee, as she knew I was always such a coffee drinker, but I said 'No, thank you.'

"What! said my cousin, 'you quit coffee? What do you drink?'

"Postum," I said, 'or water, and I am well.' They did not know what Postum was, but my cousin had stomach trouble and could not sleep at night from drinking coffee three times a day. He was glad to learn about Postum but said he never knew coffee hurt anyone." (Tea is just as injurious as coffee because it contains caffeine, the same drug found in coffee).

"After understanding my condition and how I got well he knew what to do for himself. He discovered that coffee was the cause of his trouble as he never used tobacco or anything else of the kind. You should see the change in him now. We both believe that if persons who suffer from coffee drinking would stop and use Postum they could build back to health and happiness." Name given by Postum Co., Battle Creek, Mich.

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HOME AND YOUTH

THE PSYCHOGRAPH.

BY WILLIAM A. COREY.

"If you will pardon me," began the visitor, accepting the proffered rocker by the window, "but I—we—have never had much confidence in mental healers. But we have tried all the regular practitioners without success and we are at our wits' end. Now—"

"No offense at all, Mrs.—er—Mrs. McKain," put in Dr. Graville, glancing at the visitor's card in his hand to make sure of the name, "No offense at all. Mental science is always the court of last resort. First the family doctor and the various specialists. And the mind healer is usually the last called in. Perfectly natural and there's no prejudice in it. But I interrupted you. Please proceed." And the doctor, a kindly looking man with a round, boyish face, folded his hands across his ample front and looked at his visitor.

"The mind of my sister, Mrs. Lannon," the lady went on, "is, we fear, giving way. It is purely a case of grief;—grief through the loss, first of her husband and then of her home and child, a boy of ten. The husband, a boiler-maker, was killed by an explosion in Los Angeles three years ago. The shock of his death nearly killed her for she, at best, is a frail body, poor thing. Then last February, seven months ago, she came up here to attend to some property she has here, leaving the little boy in the care of a nurse. While here—Oh, how I regret it!—I persuaded her to stay a few months with me. I thought the change would do her good. Well, she decided to stay and sent the nurse and boy steamboat tickets to come to San Francisco. The night after the nurse and child left, the house took fire in some mysterious manner and was burned to the ground with everything in it. Then—Oh, how true are Longfellow's words, 'Misfortunes come not singly.' Then, when the steamboat bearing the nurse and boy reached a point a mile or so outside the heads by the Golden Gate she went down." And among the lost were the nurse and my little nephew."

At this point the visitor's emotion overcame her and it was some moments before she could continue, while the doctor sat in sympathetic silence. Finally the lady regained her self-control and was able to continue her narrative.

"There is little more to tell," she sobbed. "My sister's life for a long time hung in the balance. The boy, a sweet little fellow, had been her very life. We did everything for her imaginable. She was never left alone for a moment, for we feared suicide. We provided her with the best of medical attention. We took her east. But in spite of it all she grew worse. You see the loss had been so complete. Not only the two nearest and dearest to her were taken, but absolutely nothing to remind her of them, not a thing, was left; not a tangible article; not a garment, not a keepsake, not even a photograph. My husband visited the ruins of her home in Los Angeles and searched them in the hope of finding something, even an old, half-burned shoe, a toy—something for her affection to cling to. But he could find nothing, absolutely nothing. We tried to get her occupied. But she will do nothing but mope, with dry eyes partly closed, and her lips silently forming words of endearment for her boy."

"I fear," said the Doctor, after a moment's thought, "that your sister's mind is not in a condition to respond to the ordinary methods of mental healing; to either auto or hypnotic suggestion. Her emotional condition seems to have reached an acute stage that threatens to permanently dethrone her reason. We must think of something else, some adroit and skillful movement. Is her physical health otherwise normal?"

"Certainly," Mrs. McKain assured him, "though one can't be entirely well physically and suffer mentally as she does."

"Exactly," agreed Dr. Graville, "the body and mind are interdependent and react upon each other. Will you be so kind as to step this way a moment?"

And the Doctor, as though suddenly changing the subject, arose and led his visitor into an adjoining room which was lighted by a broad skylight and ample windows on two sides. The other two sides of the room were lined with shelves bearing a numerous assortment of large and small bottles containing liquids of different colors. There were retorts,

glass tubes, bell glasses, pestles, mortar bowls, etc. All these, as well as the odors that hung upon the air, plainly indicated a chemical laboratory. There was also a photographic camera and, in a corner, a small photographer's dark room.

"This," explained the Doctor, waving a hand about, "is my work room. For a long time I have been carrying on experiments designed to solve one of the riddles of the centuries, viz., the power of mind over matter."

The Doctor took up a small bottle containing a colorless liquid and carefully let a drop of it fall upon a perfectly clean glass slide. "This liquid," he went on, "is a solution of phosphate of iron which is one of the twelve inorganic mineral substances of which the human body is composed. This slide is an ordinary photographic slide used in making negatives. Now I hold the theory, and have long been experimenting to establish its absolute proof, that the human mind works with these mineral compounds, of which this phosphate of iron is one, as truly as a mason uses brick and mortar to build a wall. Now to establish this fact—"

"But really, Doctor," interrupted the visitor nervously, "I called to advise with you about my sister. I am worried about her and have no time for abstractions however—"

The Doctor smiled as he held up his hand. "Don't be hasty, Mrs. McKain," he deprecated, stooping to pick up her handkerchief which had fallen to the floor, "I have not forgotten your sister nor your anxiety for a single moment. I'll come to the point in a second. To establish the fact of the mind's influence on matter I have for a long time been trying to prove that an image held in the mind can be photographed as actually as the material face. Now we come directly to the case of your sister. What she needs to relieve the emotional strain that is destroying her reason is some outward object suggesting her boy, upon which she can lavish her affection—something to cry over, something to cherish. Supply that and we save her. If we can compel her mind to give up the image it holds of her dead boy, to externalize or body it forth, it will become a healthy object of love and not an inner poison or canker, eating out her heart. If, in other words, we can make what I have named a psychograph of her vivid mental picture of her boy and then present it to her as a finished and enlarged photograph, we will have accomplished our object. We—"

"Oh, Doctor," exclaimed the visitor, the tears springing to her eyes as she caught his meaning, "If you do this you will be well paid I assure you. But—" and her expression changed to despair again—"but Oh, I'm afraid we are too late. I am afraid my sister is past being able to co-operate with you with sufficient intelligence to make such a difficult process possible. She is past clear thinking. She can do nothing but feel, but suffer."

"On the contrary," replied the Doctor, "that very condition forms the main basis of my hope of success. It is not the intellect and reason that acts upon these compounds, but the feelings, the emotions. The intellect plans, but the emotions execute. The fact is, as I was about to say, my difficulty has been to find subjects who will hold the given mental image with sufficient depth of feeling. The natural tendency is, as the subject looks at the photographic slide, to think about the image rather than feel about it."

The Doctor stepped to a shelf and produced a number of photographs. "These," he said, "are attempts to photograph mental images. They were first formed in the chemical substances on the glass slide, then photographed and enlarged under the microscope. They are recognizable, as you see, but are far too imperfect to be of use in our case. The photograph of your sister's mental image must be perfect enough for her to recognize readily as a photograph of her boy. This will be difficult to do, but I am depending upon the intensity of her feeling to do it."

The Doctor bowed his visitor out after an appointment had been made to call at the latter's residence at ten the following morning.

The next morning, as per appointment, Dr. Graville called at the number he had been given and was ushered at once into his patient's room.

He found the woman's condition very grave. She sat, either staring vacantly into space, seeing nothing, or with her eyes half closed and head bowed, whis-

pering words and phrases concerning her lost boy.

The Doctor addressed the patient in a strong, cheery voice, calling attention to the beautiful morning and saying, "Are you feeling better this morning, Mrs. Lannon?"

The woman did not answer at once but presently, looking at the Doctor, she said, "Oh, if I only had something, something."

Quickly catching at her meaning, Doctor Graville said, "Perhaps we can supply you with that something, Mrs. Lannon, if you will do exactly as we wish. Will you do it?"

"I can see him all the time," she said, irrelevantly, "see him in the door—in the door." And then she dropped her hands into her lap.

A photographic slide, treated with a mineral solution, was placed upright upon a table a few feet in front of the patient, while the camera was placed behind and to her right and trained on the glass slide.

The woman was told to think of little Roy and then look directly at the glass upon the table. But there was no response. The dry eyes were not raised from the folded hands in the lap. Again and again she was begged to look up but she paid no attention.

Presently, after a whispered conference with the Doctor, Mrs. McKain seated herself in a chair behind the table and directly in front of her sister. "Zelda," she began, "right before you is the front door of your house in Los Angeles. It is a beautiful day. There is a honey-suckle growing up over the porch. There is a row of calla lilies along the walk in front of the porch. They are in full bloom. There is a dog coming around the house and a cat sits on the window sill sunning herself. And see! Who is that standing in the half-open door and laughing and waving kisses at his mamma as she goes away? He has been playing. He is bare-footed and—"

"Oh, little Roy! Little Roy!" suddenly cried out the bereaved mother, throwing out her arms as though to clasp him and looking directly toward her sister.

Instantly the camera behind snapped. One psychograph, at least, the Doctor felt certain, had been secured.

Other efforts to get results failed and the Doctor decided to wait until the negative could be developed and the result ascertained before trying again.

He was more than pleased with the outcome of this trial. The film, on development, showed a remarkably clear reproduction of the scene described by Mrs. McKain. The mother's intense emotion at the right instant had thrown her mental image on the sensitive surface of the chemically prepared glass slide on the table and the camera behind had caught it.

To develop, retouch, enlarge and mount the picture only required a few days and the moment came to present it to the bereft mother.

She had failed rapidly in the meantime. Apparently her sudden rousing under the stimulus of her sister's suggestive word picture, and the excess of emotion with the inevitable realization of disappointment, had weakened her and she was almost past help.

The picture, beautifully finished and framed in gold, was brought in and placed directly before the poor woman. She was told to arouse up and see her little Roy's face; that she now had something she had longed for. But she only shook her head and moved her lips in voiceless despair.

"Oh, Zelda," pleaded Mrs. McKain, "please look up. Little Roy's picture is before you. Little Roy, you own—"

The tired eyelids were partially raised. They had been raised so often with nothing to reward the effort. Oh, why wouldn't they let her die in peace and go where her boy and husband were? Perhaps this thought surged through the tired brain.

Slowly the eyes began to open, slowly the heavy head was raised. "If—I—only—had—something." And then the miracle took place, the miracle of science, the miracle of love. The eyes saw the strange object on the table, the massive gold frame, the beautiful coloring and then—

For one instant, just one instant, the woman sat spellbound, eyes open, mouth open, breathless, motionless as a statue. And then, half laughing, half crying, she sprang forward, seized the picture and kissed and pressed it to her bosom and the first tears she had shed in months coursed down her cheeks. She had "something" on which to lavish her love and to anchor her to life.

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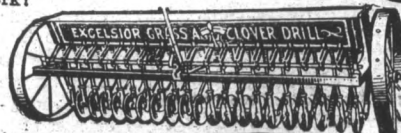
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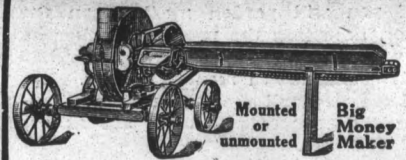
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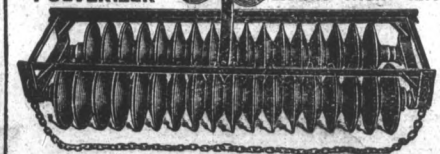
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