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\$2 FOR 5 YEARS.

Profitable Summer Pasture for the Pigs

THE farmer who makes a specialty of pork production has long since learned by comparison, if not through the keeping of accurate accounts, that he can grow his pig crop to maturity much cheaper where fed on suitable pasture than where confined in a small area and fed altogether on a grain ration or in a poor and insufficient blue grass pasture. This class of farmers has learned from experience that if suitable forage is not available in the crops already growing upon the farm, it will pay to sow supplementary forage crops to provide summer pasture for the pigs. The farmer who does not make much of a specialty of pork production has not, in a great many cases, learned these important lessons, and does not appreciate the fact that even though not many hogs are produced on the farm, it will pay to provide these conditions, even if supplementary forage crops must be sown to provide them.

As previously noted, accurate cost accounts in the matter of production are lacking on the great majority of farms. In a great many lines of production, this lack of cost figures cannot be well supplied from outside sources, but fortunately on this particular proposition of providing summer pasture for the pigs, accurately kept cost accounts are available through carefully conducted experiments at different experiment stations throughout the country. Perhaps the latest and most complete of available cost records of this kind is that made public last year by the Iowa Experiment Station, and the results shown by these records will be sufficient for the purpose of this article, which is to demonstrate the profit of providing suitable summer pasture for the spring pig crop.

Alfalfa the Best Pig Pasture.

Undoubtedly, where it is available, alfalfa is the best possible summer

pasture for the spring pig crop. This was found to be the case in the experiments above mentioned, the low record cost of gain being made upon alfalfa pasture where the alfalfa was not stocked so heavily but that hay



Dwarf Essex Rape Sown Broadcast at the Rate of Five Pounds Per Acre.



Rape May be Sown in Drills and Cultivated where the Hog Lot is Small.

was cut from same and credited at \$3.46 per hundred with corn figured at 60 cents per bushel. The same relative cost for a previous trial in which the pasture was not credited with the hay cut from same, was respectively, \$3.96 and \$4.60 per cwt., with corn figured at the two prices above given. The average of production costs for the two years was \$3.42 per cwt., with corn at 50 cents per bushel, and \$4.03 per cwt. with corn at 60 cents per bushel. The average net profit derived from an acre of alfalfa pasture, estimating corn at 50 cents per bushel and hogs at \$6 per cwt., was \$71.74. Figured in another way, the average price per bushel which the hogs paid for corn consumed, with hogs at \$6 per cwt., deducting cost of alfalfa pasture, including rent of land, was 93 cents per bushel.

June Clover a Good Second.

Medium red clover is a fairly close second to alfalfa in results with growing pigs. With corn figured at 50 cents per bushel, the average cost per hundred pounds of gain in an average of four trials on red clover pasture was \$3.99 per cwt., and with corn at 60 cents per bushel, \$4.35 per cwt., while the average value of an acre of clover pasture with corn at 50 cents per bushel and hogs at \$6 per cwt., was \$57.21. Figured in the price returned per bushel of corn, after payment of cost of clover pasture, including rent of land at \$6 per acre, on an average for four trials the price received for corn fed on clover pasture was 87.6 cents per bushel.

June Grass and Timothy Pasture.

Where alfalfa or clover pasture is not available, as it is not conveniently available for the pigs upon many farms, the question arises as to whether it would be more profitable to pasture the pigs on an old June grass or timothy sod, such as is usually found in the hog lot, or sow

(Continued on page 445).



Peas and Oats make Excellent Pasture for the Growing Pigs. A Bushel of each with Two or Three Pounds of Rape Makes a Good Combination.

Work of the Farm Management Dep't. of M.A.C.

THIS is the youngest department at the College, and there seems to be some misunderstanding throughout the state concerning the nature of the work to be done and the connection it has with the other departments at the College. This is not at all surprising as this department is partly financed by the United States Department of Agriculture. It is generally known that the federal government contributes annually large sums of money for the support of the state agricultural colleges and experiment stations under the Morrill, Adams, and Hatch acts, but it is not so generally known that the federal government is now supplementing this money with appropriations designed especially to assist the extension work of the College. In order that Michigan might receive her full share of this newest form of governmental aid, the State Board of Agriculture created the Farm Management Department, contracting with the Department of Agriculture to the effect that this new department of the College should conduct "farm management field studies and demonstrations" in the state of Michigan at the joint expense of the two high contracting parties.

This clearly gives this new department two lines of work: first, to make a study on the farms of all the problems that confront the farmer in the management of his farm; second, to conduct such demonstrations on the farms in Michigan in co-operation with the owners, as will illustrate the teaching of the College, the Department of Agriculture and the practices of the most successful farmers of Michigan in the production of good crops, in the maintaining of soil fertility, in the fighting of disease and insect pests. Much of the misunderstanding of the nature of this work will be cleared away by keeping clearly in mind the two-fold purposes of the work. Possibly it may be stated in this way, farm management field studies are designed as an effort to learn of the successful farmers, the cause of their success; field demonstrations are designed to present to the farmer better methods in the growing and marketing of his products than he now practices. The latter is usually referred to as extension work of the Agricultural College. For many years the College has been doing extension work by sending out bulletins, newspaper articles, lecturers at Granges, Farmers' Clubs, Institutes and other public meetings. This new plan goes a step farther and requires the lecturer to stay by the job and assist interested farmers in putting into practice the recommendations that he has made. It will be seen at once that this plan necessitates a man who knows the practical as well as the theoretical side of the question. Much of the work of the regular farmers' institute lecturers has been inadequate because they could not know the local conditions. The man who stays in the community will become acquainted with the local situation and be able to give the proper information at the proper time. It is not to be expected that any one man will be a complete fountain of wisdom on all agricultural subjects but he must have all the knowledge and training that he can get at the College as well as the training that comes only with years of actual farm experiences.

This plan of work necessitates a much larger force of extension workers than the College has previously employed. For this purpose, in part, the last legislature increased the appropriations for the College, and Congress has been quite liberal, but the funds are so limited that men are employed only in such counties as are sufficiently interested in this work

to furnish half the funds necessary to finance it in their own counties. At present ten counties have men so employed and as many more are now raising money for this work. In some counties the boards of supervisors make the necessary appropriations and in others the funds are raised by popular subscription. Anyone desiring more detailed information along this line can write to Dr. Eben Mumford, Farm Management Department, East Lansing, Michigan.

This form of extension work has been well exploited by the press of the state and is fairly well understood as another step forward by the College in its efforts to be of real service to the taxpayers of the state and more effectively bring to all classes of farmers a better knowledge of the best methods of fighting disease and insect pests, a better knowledge of the principles of feeding and breeding live stock, a better knowledge of the principles involved in the maintenance of soil fertility and the production of good crops, a better knowledge of what the market is demanding, and how to supply it.

For years the millers and elevator men have been endeavoring to establish standard grades of wheat and other grains and encourage farmers to produce those grades. They are succeeding to a certain extent, but unfortunately a large per cent of the wheat grown is sadly mixed and the farmer receives a smaller price for his grain than he would get if he was producing an unmixed wheat of standard grade. At the present time the market is demanding standard grades of apples, potatoes, and other farm products, but is getting mostly job lots. It is no help for one man to produce standard potatoes, carefully graded, if he must dump his potatoes into a car with his neighbor who has a job lot. Just as long as farmers are content to raise job lots of potatoes and sell them at job lot prices, there will be dealers who will be content to pay job lot prices and sell again at the lowest market price. The present conditions can only be remedied by united effort on the part of farmers and dealers to produce the types and uniform size demanded by the market. In some of the counties where an agriculturist is employed, it is becoming apparent that his services are of more value in encouraging the production of potatoes of standard type and uniform size than in anything he can do to encourage the production of more potatoes per acre or per farm. In these counties potato societies are being formed that all parties interested in the growing and marketing of potatoes may get together and with a common understanding of what is needed, all may work together toward the desired end, namely, better potatoes and better prices. This is true in counties in which the potato is a leading crop and in counties where other crops take the lead the same conditions exist with respect to that crop. It is becoming very evident that the organization of societies of this kind to encourage united effort in the community to produce such grades and types of produce as the market demands, not only of potatoes, but of fruits, vegetables, grains and live stock, is a task for the county agriculturist or county agent, as he is or more benefit to the community than will be his efforts to increase yields. (Concluded next week).

C. P. REED,
Assistant in Farm Management Field
Studies, U. S. D. A. & M. A. C.

SWEET CLOVER.

The sweet clover question, as seen by Mr. E. H. Allyn, is somewhat different than our viewpoint, we having

grown it for the past four years. He says, to begin with, the seed is expensive, which is true if we depend on the market for our supply, but our method of procuring seed is to go on the roadside at the proper time of year, cut what we want, cure it and hull with our other hulling job. Last season we took the binder and in about two hours cut what we needed, one man running the binder and another keeping the road clear of bundles so teams could pass. When cut we hitched to a wagon and drew it, shocking in long rows two bundles wide, ready to hull when cured. We hulled it with other seed and got some over three bushels of fine hulled seed and about a bushel with the hulls on, 60 pounds to the bushel, and did not spend over four and one-half hours in procuring the seed.

As to the germination of seed, I think Mr. Allyn is correct if the seed is sown in warm weather, but if sown in fall or winter the seed germinates the first year.

Our first seeding was with June clover and alsike, 40 lbs. of clean, sweet clover seed being mixed and seeded on 16 acres. When we cut our first crop the sweet clover was six or eight inches taller than the other clovers and all cured in good shape. To look at the field before cutting it looked as though every seed of the sweet clover had grown. We never have had hay that stock would eat better. We have grown alfalfa for the past six years and appreciate its worth, but we do know that we can grow sweet clover where alfalfa will not grow, and our stock eat the hay made of sweet clover and do just as well on it as on alfalfa. We have succeeded in growing sweet clover everywhere tried, except in our pasture, and stock keep it eaten down so close it is never allowed to go to seed. We suppose inoculation would be an advantage, but we have used it only on alfalfa.

It may be that Mr. Allyn has not seen sweet clover grow as it grows here, as for a heavy clover crop nothing equals it. Admitting that the habits of sweet clover and alfalfa are different, sweet and June clover have the same habits and can be worked in the rotation of crops the same.

Hillsdale Co. W. G. BOYD.

THE CONSERVATION OF STONE ROADS.

In your issue of February 7, 1914, the crop and market notes from Hardin county, Ohio, contain the following item: "The roads are in good shape yet, not much heavy hauling allowed on the stone roads when they are not frozen." I always supposed that stone roads were made to use, not to look at. Kindly explain.

Livingston Co. C. H. H.
In regard to Mr. Hill's inquiry about the stone roads, will say he is exactly right. They are made for use, not to look at. But the essence of the problem is to keep them in good condition. Now, our stone roads are built around eight or ten inches in depth. When everything is dry or frozen, we have a solid road and anything you wish to haul is O. K., but when the frost is just coming out of the ground and frequent rains are falling, our stone road and roadbed is practically loose or soft, therefore the reason for halting the heavy hauling during the open weather, or any time in the year when it continues wet, so long as it would be liable to damage the roads. Perhaps I had better state, too, to make this plain, that our country here is of a clay nature, both blue and yellow clay, and when this is wet and tramped it is a tough mud and does not dry up like the sand roads do; so a wagon loaded heavily will eventually cut through and then the water will stand in these places and soon form chuck-holes, as we call them, and they go from bad to worse and soon our pikes

are not any better than a few rough stones just strung out to drive over. Now, a pike is a nice stone road, and should be kept in shape so you can hitch up to the buggy and let the horse step off at a merry clip any time and anywhere, and the way we try to protect them is this: we have commissioners, trustees and a road supervisor to look after roads and ditches. Here is a notice I clipped from our weekly paper:

Warning to Teamsters.

Persons hauling on the pikes of Liberty township are hereby warned to keep within the bounds of the law in regard to loads. If you want to know what the law permits call on the Justices and consult the statutes.

T. F. George, Road Supt.

You can expect to see a notice like this as the first warning, and at no time, dry or wet, are you allowed to haul over 3,400 lbs., vehicle and load, unless your vehicle has tires of three inches or more in width. Now this is the way we try to care for our pike roads here, and when properly taken care of make a splendid road. Anyone violating the law is subject to a fine of not less than \$5 or more than \$50.

Ohio.

R. D. NOWLAN.

FARM NOTES.

Fertilizing Potatoes.

I would like to get some information through your valuable paper, about fertilizing potatoes. The ground is a sandy loam and under ordinary weather and without fertilizer will grow 100 bushels per acre. Now I would like to learn what kind of fertilizer to use, how much per acre, and how to apply it. Will plant the potatoes with a hand-planter. Is there any tool on the market to apply fertilizer to every hill? If so, what is the right amount to apply? Any information on this subject would be appreciated.

Manistee Co.

F. D.

On land of the character mentioned and in the state of fertility described it is the writer's opinion that the most economic results would be secured by planting the potatoes in rows one way, with a planter having a fertilizer distributor and putting in about 500 pounds per acre of a high-grade potato fertilizer, that is, one containing a liberal percentage of potash as well as phosphoric acid and some nitrogen. This conclusion has been reached after repeated trials of fertilizer applied broadcast on potato land of similar character, where as much as 1000 pounds per acre has been used, and where the potatoes have been planted in hills with a hand-planter at varying distances apart. Of course, a great deal depends upon weather conditions, but these cannot be foretold in advance, and one has to figure on average conditions. We know of no implement which will distribute the fertilizer as suggested in this inquiry.

Growing Sand Vetch for Hay.

Please advise me as to growing of sand vetch, when to sow, and will it make hay the first year? At what stage should I cut it? How long will it stay in the ground and how much seed should I sow to the acre? Would it do to seed alfalfa in it?

Cass Co.

FARMER.

The winter vetch is ordinarily used in Michigan for a forage crop. It should be sown, preferably in late August, using about 30 lbs. of seed with a bushel of rye per acre. It will make a vigorous growth under favorable conditions, and can be pastured some if desired, and will make a hay crop the following season. If cut for hay early in the blooming period, the plant will not make much second growth, and if not allowed to mature, seed will not remain in the ground. It would not, in the writer's opinion, be a suitable crop with which to seed the land to alfalfa, as it would shade the ground too much to give the alfalfa a fair chance. If a crop is needed for hay the present season, it would be better to sow peas and oats or soy beans or cowpeas this spring.

LILLIE FARMSTEAD NOTES.

Canning Factory Crops.

For the past two years I have been experimenting with, and studying canning factory crops. A new canning factory was built two years ago at Coopersville, and of course they are anxious to get peas, lima beans, and sweet corn for canning purposes. Farmers are also anxious to get hold of some kind of crops that will pay better than ordinary crops, and if we can make a success out of canning factory crops, if they pay better, then of course it is our duty to ourselves as well as to the factory, to raise these crops and support the factory. It is an enterprise worthy of support if it provides the farmer with a safe and sure market. One thing about this market I like is that the price is settled, and all the farmer has to do is to raise the crop. It is entirely different from the bean market. The farmer raises a crop and then he worries about the price. The price may go up or it may go down. With the canning factory crops it is something like sugar beets. The price is fixed by contract and he has a safe and sure market. Where farmers can get decent prices for crops under contract, I believe that it is the best way to solve this problem of marketing. Besides this, with all of the crops which I intend to grow for the cannery, the residue is a valuable feed for live stock. The pea vines after they have been threshed, make a splendid feed. They can be cured into hay if one wishes but the best way is to put them into a silo, and the same way with the lima bean straw. Then, of course, the sweet cornstalks, after the ears are picked, can be put into the silo and make valuable ensilage. The factory has erected a large silo, and when the peas and beans are run through the viner the vines go into the silos and the silage is given back to the farmer during the winter time. Where people do not live too far away this makes an excellent way of disposing of the vines and makes it comparatively handy and easy for the farmer, but where one lives four or five miles from the factory it is not a nice thing to draw it in cold weather.

The Cost of Delivery an Important Factor.

This feature of it, and then the fact that the green peas had to be drawn to the factory in mid-summer when we had all the work we could possibly do on the farm for both men and teams, has convinced me in the last two years that my farm, being four and a half miles away from the factory, is too far away to make these crops advisable, and I had practically given up attempting to grow crops for the factory on account of this excessive cost of delivering the peas, which comes the last of June or the first of July, just when we want to make clover and alfalfa hay, and when the corn ought to be cultivated, and there are so many things to do on the farm that it is impossible to do them all just as they ought to be done. Lima beans are not quite as bad, because they come later, in August, when the hurry of the season is over with, but then the hauling of these green vines to the factory and hauling the straw back again is quite a task, and I decided to cut the whole matter out. The case is a little different with sweet corn. When the corn is fit to be canned the ears are picked off; this can be done rapidly by picking two or three rows on each side of the wagon, the corn is hauled to the factory, where one gets about \$8 per ton for the green corn, husk and all. Now, \$8 per ton is more than this corn is worth to feed to the cattle, and I think one can make more money by hauling it to the factory for \$8 per ton. Last year was an exceedingly dry one and on

portions of the field there was no sweet corn at all, yet the sweet corn brought me in \$20 per acre, and I had the stalks left.

Cost of Hauling Eliminated.

But now my problem of hauling the peas and the beans to the factory seems to be solved, and in a different way. I began to inquire about the cost of a viner so that I might have one on my farm. I found out that these viners were controlled by a monopoly and could not be purchased, but that they were rented for \$75 per year. I began to figure that if I would raise from 30 to 50 acres of peas and 25 to 30 acres of lima beans that I could well afford to pay \$75 a year rent on a viner and do the vining on my own farm rather than haul these crops to town. It don't take so very many trips, with hired men, to come to \$75, and I have made arrangements with the proprietor of the canning factory that he furnish me with a viner and set it up on my farm. It will be permanently located with a cement foundation and a cement floor under it so that everything can be kept clean. I am going to set it up against the end of the big barn and we will put on a lean-to roof and side it up to protect the viner from the weather, and I am going to set it so that we can run the vines directly from the viner to the ensilage cutter and run them through the ensilage cutter and blow them directly into the silo. My big traction engine has power enough to do this without any trouble at all. The canning factory will furnish measures for the peas and will come and get them every night and take them to the factory, and we will not have to bother in this way.

Now, if we can only raise a good crop of peas and a good crop of lima beans I feel sure that we can get fully as much or more out of the acreage of these crops than we would to put them into anything else. The pea vines are worth almost as much to feed cows as the same area would be worth in clover hay, and the lima beans are worth nearly as much. I know they are good cow feed, because we have fed them the past two years and the cows like them and do well upon them. We are feeding now corn silage and lima bean straw mixed as they were put into the cutter, and they are getting along with a grain ration containing less protein than would be necessary if I only had corn silage to feed. So I am going into canning factory crops, perhaps just a little swift, because I have contracted to raise 50 acres of peas, 20 acres of lima beans, and about 25 acres of sweet corn for the canning factory.

One trouble will be that the pea vines will have to go into the silo without being mixed with sweet corn because there will be nothing of the sort at that time. But then, when I am feeding pea vine silage I can feed a grain ration which will help to balance it. Then, when I feed corn silage alone I can change this grain ration and feed more protein and have a balanced ration then, and by figuring this out I don't think there will be any trouble. The sweet corn and the lima beans will come at just about the right time so that we can mix the lima bean straw and the sweet cornstalks when they are put into the silo. I also intend to sow some of the ground that will be in early peas, to soy beans just as soon as the peas are off and get a second crop of soy beans to mix with the sweet cornstalks as I did last year.

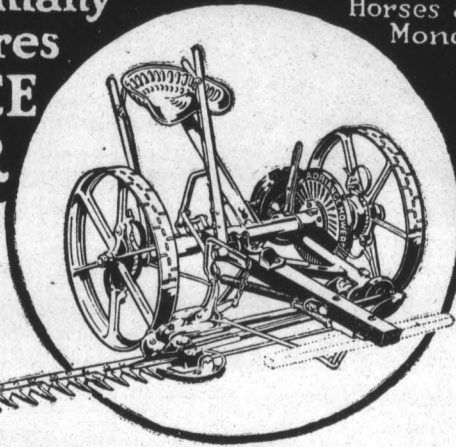
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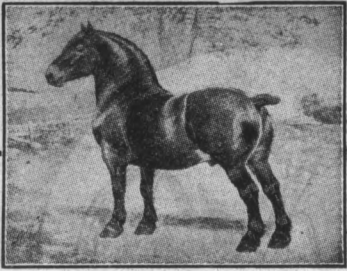
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Ewes vary widely in their ability to convert food into milk for their suckling progeny. Some individuals in the flock possess strong milk-producing tendencies and cause their nursing young to make very rapid growth, while other ewes, seemingly as well fed and vigorous are incapable of producing a large flow of milk, consequently causing their young to make slower development. It is difficult to so handle the flock that every individual may receive special attention, but some general method should be employed that will induce as large and uniform milk flow as possible.

For the first few days after the lambs come, the ewes should be carefully fed so as not to produce too rapid stimulation of the milk-producing system. Heavy milking ewes are

produce a setback and possible loss.

No matter how early spring pasture comes on during late April and early May, it is unwise management to allow the ewes too free access to green feed. Less trouble and more uniform flow of milk will result if some bright clover hay is fed for the first two or three weeks after the flock is turned to pasture. The dry roughage will check the succulent effect of the green pasture and prevent a too radical change in the ration. A light grain ration will also be a great stimulant to milk flow and also to assist in keeping the ewes in good health. Oats and wheat bran, equal parts, is a very excellent grain ration for nursing ewes during the spring months. This ration can be fed liberally and without danger.

Shiawassee Co. L. C. REYNOLDS.

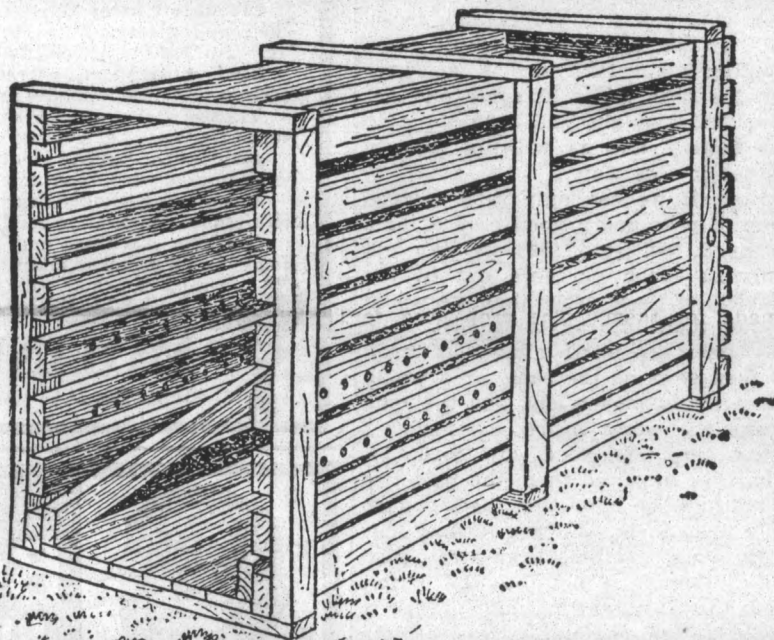
BREEDING CRATE.

Will you kindly publish plan of a hog breeding crate in the Michigan Farmer?

Hillsdale Co.

S. H. C.

We reprint the description and illustration of a crate described in Farmers' Bulletin No. 205. The best size is 6 ft. long, 2 ft. 4 in. wide, and



subject to permanent injury because of improper management following lambing. As a rule it is prudent not to abruptly alter the ration after lambing, to what the ewes have been accustomed to during pregnancy. The milk-producing system of ewes is a very delicate and sensitive organization and easily injured.

As soon as the ewes have regained normal condition after lambing, and the lambs gained sufficient strength to care for themselves, attention should be directed to feeding the ewes for milk flow. This should be begun with a considerable thoughtfulness as there is great danger of feeding too heavily the first two or three weeks. If the ewes have been accustomed to dry feed, some succulent matter should be added to the ration, either by feeding ensilage, roots or if weather conditions are favorable turn the flock out on a meadow pasture. Green forage is the most natural and palatable milk-producing food available in the spring, but must be supplied the flock very judiciously or harmful results are sure to follow. Early spring forage contains a very high percentage of water and is extremely low in nutritive ingredients, consequently an unbalanced ration, if depended on entirely as a feed for nursing ewes. Green forage, if supplied the flock too abundantly early in the spring, is likely to cause indigestion among the little lambs and

2½ ft. high. It is made of 2x4-inch scantling, closed in front and open behind. On each side nail a 2x4-inch strip, reaching from the bottom at the rear end to a point about 4 or 16 inches from the top at the front end for the boar to rest his feet on. The holes in the side cleats are for an iron rod to run through, just behind the sow's hock joints. The cut shows the bottom boards put in lengthwise. If put in sidewise, the boar will not slip so much. Light slats nailed crosswise will prevent slipping.

FEEDERS' PROBLEMS.

Middlings and Tankage for Young Pigs.

I have a bunch of pigs just old enough to wean. I would like to know if scalded middlings and tankage would make a satisfactory ration. If so how much tankage would I feed at the start for pigs six weeks old?
Saginaw Co. F. T.

Middlings constitute a fairly well balanced ration for young pigs. A very little tankage might be used to advantage, in which case some feeding molasses added to the ration would increase its palatability and be beneficial in maintaining a proper nutritive ratio, but only a very small amount would be required until the pigs get older and corn forms a part of their ration, when about one part of tankage to nine or ten parts of corn will make a fairly well balanced ration.

DOES SILAGE FREEZE IN METAL SILOS?

The true test of a silo is its ability to preserve silage under abnormal conditions. After the extremely cold spell last winter, we asked many customers how "ZYRO" Silos "behaved." In reply to our inquiry whether frost injured silo or silage, all

Owners of

ZYRO Metal Silos

Say NO!

Here is one of a score or more of the kind of replies we got:—"The Wood Silo agents laughed at us last fall. They said in cold weather our silage would freeze solid, but they were mistaken. Several times it did freeze so that it stuck to the sides of the silo. But a few hours of sunshine would loosen it up again. That is the beauty of a metal silo wall." Silage frozen to wood or tile has to be chopped off the walls; chopping damages walls. Become "ZYRO"-wise! Write To-Day for bulletin "Will They Freeze", which thoroughly explains all and read page 26 of our large instructive "ZYRO" Catalog. Both are FREE.

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Box 520, CANTON, OHIO.



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to give satisfaction.

GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and
positive cure for

Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address
THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

The Healthy Herd

Hundreds of herds are kept in the prime of health and productiveness by the occasional use of KOW-KURE, the great cow medicine. KOW KURE has no equal in the cure of the common cow diseases of Abortion, Retained Afterbirth and Barrenness. It is also a positive cure for Bunches, Milk Fever, Scouring, Red Water and Lost Appetite.

But it is better to prevent than to cure. The periodical use of Kow-Kure in small doses will effectively prevent these diseases, and make the healthy herd pour a constant stream of profits into your pockets.

If you have a backward cow, buy a 50c package of KOW-KURE, and give according to directions. It will do wonders. 50c and \$1.00 packages at all feed dealers and druggists.

Dairy Association Co.,
Lyndonville, Vt.



33 Package CURES any case or money refunded \$1 Package CURES ordinary cases. Mineral Heave Remedy Co., 463 N. Fourth Ave., Pittsburgh, Pa.

HOME-MADE CONCRETE MIXER—Runs by hand or 1½ H. P. engine. New castings furnished if desired. Write for descriptive folder. **G. O. SHELDON, Nehawka, Neb.**

PROFITABLE SUMMER PASTURE FOR THE PIGS.

(Continued from first page).

some special crop for summer forage. In the Iowa trials it was demonstrated that blue grass or timothy pasture was not as economical forage for pigs as the other pasture crops mentioned, the cost of gains on such pasture being \$4.09 per cwt. with corn at 50 cents per bushel, and \$4.77 per cwt. with corn at 60 cents per bushel, in comparison with the figures above given for alfalfa and clover, but even this pasture had a value of \$31.85 per acre above rental value with corn at 50 cents per bushel and hogs at \$6 per cwt.

Dwarf Essex Rape for Pigs.

Where special crops must be grown for hog pasture, rape is undoubtedly the most suitable single plant for this purpose which can be sown on Michigan farms. In the Iowa experiments to which reference is made, rape made a very satisfactory showing in comparison with other pastures. In figuring on the cost of gains made, the cost of growing the forage crops was estimated as accurately as possible. The cost of growing an acre of rape, for instance, was estimated at \$9.02 where sown broadcast, which includes \$6 per acre for rent of land or \$10.35 per acre where grown in drills, with the same allowance for rent of land, the amount of seed sown being five pounds per acre in the one case and 2.5 pounds in the other. With this estimate placed upon the cost of an acre of rape pasture, it was found in an average of four trials that the total cost of 100 pounds of gain in spring pigs pastured on rape and fed a supplementary ration of corn and meat meal was \$3.82 per hundred weight with corn at 50 cents per bushel, and \$4.41 per hundred weight with corn at 60 cents per bushel. On this basis the average value of an acre of rape pasture for four years was estimated at \$81.29, or figured in the price received per bushel of corn, the return for corn fed on rape pasture was 87 cents per bushel with hogs at \$6 per cwt.

Oats, Peas and Rape a Good Combination.

If it is desired to sow a combination of plants, oats, peas and rape sown at the rate of a bushel of oats, a bushel of peas and three pounds of rape seed per acre will make a good mixture. The average results secured from this combination in the experiments above referred to indicate a cost of \$3.92 per hundred pounds of gain with corn at 50 cents per bushel, and \$4.51 per hundred pounds of gain with corn at 60 cents per bushel. While this is a somewhat higher cost of gain than for the other pastures mentioned, the per acre value of the pasture was greater, being estimated at \$86.56 per acre with corn at 50 cents per bushel and hogs at \$6 per cwt., while the average price returned per bushel of corn on this pasture crop was 84.9 cents per bushel.

Cost of Gains without Pasture.

Now, to appreciate the advantages of growing pigs on pasture crops, it is not only necessary to have figures with regard to the cost of production under these circumstances, but also the relative cost of pigs fed without pasture under similar conditions. The average cost of gains in two check lots which were fed without pasture in this experiment was \$5.17 per hundred pounds of gain with corn at 50 cents per bushel and \$5.94 per hundred pounds of gain with corn at 60 cents per bushel. It will thus be seen that while a small profit might result from the production of pork with hogs at \$6 per cwt., and corn at 60 cents per bushel under ordinary feeding conditions, that this profit can be increased materially by providing suitable summer pasture crops for the growing pigs, and that the land

devoted to this purpose will return, aside from its rental value and the cost of the crop, a handsome profit, which will probably be far greater than the average per acre profit derived from the balance of the farm which is devoted to the regular crop rotation.

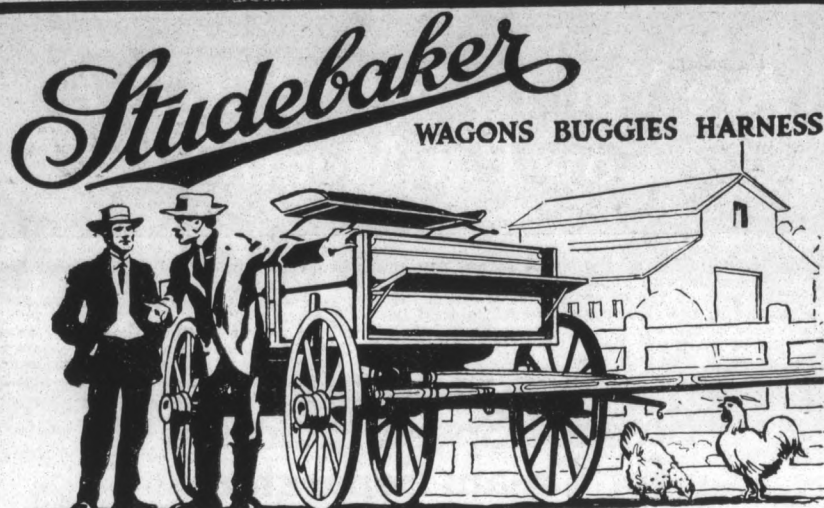
The average number of pigs per acre pastured on the different crops in the experiments above mentioned, varied according to the crop used and age of the pigs, from 12 to 30. Experiments were made with various other crops, but the results were best in those above given. It was found, however, that rye was a valuable forage crop for pigs in early spring or late fall and can be used to advantage in connection with other supplementary pasture crops for early and late pasture.

Pasturing of Older Hogs Not so Profitable.

It is interesting to note that in this series of experiments it was found that no such economy in gains was secured from the feeding of older hogs on pasture crops, the average economy in gains not being sufficient to pay for the cost of the forage crops in the feeding of fall pigs of the previous year. It may thus be concluded that it will pay a very good profit on the investment to provide a suitable summer pasture crop for the spring pigs, to be supplemented with a suitable grain ration, but that the fall pigs which are being fattened should be confined to a more limited pasture range or be fed in a dry lot with a suitable variety of grain feeds supplemented with a little alfalfa or clover hay if available.

The illustrations accompanying this article show the thrifty appearance of pigs pastured on rape and peas and oats. By a judicious combination of suitable pasture crops and a properly selected grain ration, the pigs can be kept growing thriftily from the start, and will make their owners more money if such provision is not made for them. The crop used for pasture and the method of growing it should depend upon local conditions. Ordinarily, rape sown broadcast, or peas and oats sown alone or in combination with rape will prove most valuable, or if only a small area is available for a considerable number of hogs, then it will pay to grow rape in drills and cultivate as illustrated herewith. In any event, it will pay to provide a suitable pasture crop for the pigs in a conveniently located hog lot, if they cannot be run on a clover or alfalfa pasture or in fields of clover or alfalfa which will be cut for hay.

In recent weeks cattle have developed a good deal of weakness in prices, the consumption of beef having fallen off materially, partly, no doubt, on account of warmer weather, partly because of the dearth of beef and in part owing to the especially lessened use of all meats during the Lenten season. Then the Argentine shipments of chilled and frozen beef to this country was naturally an important factor, although unquestionably its importance was much exaggerated in some quarters, for such importations fall greatly short of making good the reduced production of beef in recent years in the United States. In the course of four weeks such loadings in Buenos Aires for New York were equivalent to 25,000 head of cattle. Warm weather is expected to greatly check this movement, and late arrivals will go largely into cold storage warehouses. Argentine beef is inferior in quality to our good domestic beef, and specimens exhibited in the Chicago retail meat markets met with a cool reception, sellers asking as high prices as were current for choice home beef. It appears that English dealers in meat are greatly exercised over these shipments of South American beef to this country. England being largely dependent on such beef and realizing that the new outlet means much higher prices.



Outdoors for forty years painted once-carries five tons today

WHEN Mr. Peter Kern, Jr. of Reese, Mich. bought a Studebaker wagon, thirty-two years ago, the wagon had been working for eight years. This means that it has now been in use forty years.

A letter from Mr. Kern says:

"I bought my Studebaker from Henry Daley thirty-two years ago. The wagon has never been housed—always out in the open air and has had but one coat of paint in the forty years. I have used this wagon to haul sugar beets, four tons at a time, over country roads. The material in the wagon is as hard as a bone. In 1881 I bought more land, giving me a total of 340 acres, and my old wagon with one other Studebaker I bought fifteen years ago, has done all the hauling. I will guarantee my old Studebaker to deliver 5 tons today. I am satisfied that the Studebaker is the best farm wagon in the country."

MADE OF THE RIGHT MATERIAL

This letter proves that Studebakers use good paint on their wagons, but the real reason for the long life of Mr. Kern's wagon is the material underneath the paint. Nothing but the best of everything is used in Studebaker wagons.

You can buy today a Studebaker wagon that will last you just as long and give you just as faithful service as the wagons Mr. Kern and others describe.

You may be offered a wagon represented to be "just as good as a Studebaker"—and at a lower price. Don't be fooled. It is the life of a wagon that counts. Studebaker wagons are the cheapest in the end.

Remember Studebakers have been building wagons for over sixty years and they know how to build wagons that will last longest and give the most satisfaction. The same thing is true of Studebaker Buggies and Harness.

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Studebakers last a lifetime

MORE

Get All the Wool
from your sheep. You lose \$1 on every six you shear by the old method. 15 to 20c more in wool from every sheep is worth considering. Why not make more money?

MONEY-EASY WORK

Horses and Mules Should be Clipped
in the spring. Remove the heavy winter coat which holds the wet sweat and dirt. They will do more work for you and be better in every way.

BETTER STOCK

THE STEWART BALL-BEARING CLIPPING MACHINE
can be used for clipping horses, mules and cows without change. It's the easiest to turn, does the fastest work, stays sharp longer and is the most durable. Get \$7.50 one from your dealer, or send us \$2.00 and we will ship C.O.D. for the balance. Your money back if you are not well pleased.

STEWART'S No. 9 BALL-BEARING SHEARING MACHINE
will get you longer, better and more wool and take it off quickly and smoothly in one unbroken blanket. To shear with the Stewart Machine seems like play to those who have labored with hand shears in the old, hard, sweaty way. You don't have the same swollen aching wrists. You don't scar and disfigure your sheep with uneven shearing and spoil the wool with second cuts as you used to do. The Stewart saves all that and easily and quickly gets you more and better wool. Get one from your dealer, or send us \$2.00 and we will ship C.O.D. for balance. Money back if not pleased.

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saves high lifting, lighten draft, don't rut roads. Spokes don't loosen—wheels don't dry out or rot. Write for free book on Wagons and Wheels.
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H. C. PHELPS, Pres., The Ohio Carriage Mfg. Co.
Station 32 Columbus, Ohio

Are You Losing \$2.25 Per Cow Per Month?

FROM 10% to 50% of the butter money you ought to be making out of your present herd is slipping through your fingers—or rather, through your cream separator. You're only getting part of the cream out of the milk your cows give—because you don't turn your separator at the right speed so as to get all the butter-fat.

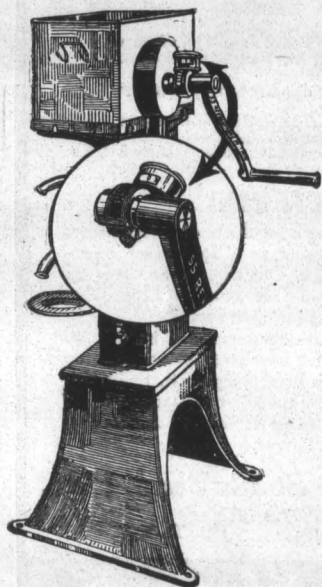
The maker of your cream separator has marked, right on your separator, the proper speed that it must be turned to have it give you the best results. But nobody can crank a separator right by "guess." The only way you can crank it right is by using a Stewart Speed Indicator. This accurate Speed Indicator is now being used by thousands of dairymen who are getting from 1/4 to 1/2 more butter-fat out of the same cream than they ever got before. The

Stewart Speed Indicator for Cream Separators

is an instrument that goes on the separator and tells you at a glance exactly how fast you are turning the crank handle. For instance, if it says on the handle of your separator that it should be turned at "55 revolutions per minute," then you watch the Stewart Indicator, and keep turning just enough to keep the speed dial exactly at "55." That's all there is to it. It is simple, isn't it? And yet it means all the difference in the world to you, in what profits you get out of your cream.

Some Typical Cream Losses

Tests made at Purdue Experiment Station showed that one dairyman with 20 cows lost \$524.10 in one year by turning his separator by "guesswork"—he found he was turning it about 1/2 the speed he thought he was turning it. Another dairyman with 8 cows writes that he lost \$18.50 in one month because he "guessed" wrong. He found he was turning his separator way below what he should.



For sale by all hardware and agricultural implement dealers all over the world.

These figures show a loss of about \$2.25 per cow per month. And there are thousands of dairymen today losing that same \$2.25 per cow per month. You are probably one of them, but don't realize it because no one has ever told you. Do you want to? Can you afford to? If you have four or five cows the Stewart Speed Indicator will just about pay for itself in one month.

Fits Any Separator—\$10

The Stewart can be easily and quickly attached to any cream separator made and costs but \$10 complete. Just tell us the name of your separator, its number, and the year it was made, and we furnish the Stewart on a new crankshaft that will fit your present separator. (If yours is a De Laval, then no extra crankshaft is necessary.) Order from your dealer or from us. Try it 30 days. If it does not increase your cream production, return it to the dealer and get your money. We are willing to make this offer because we are sure of just what this instrument will save you in cold cash.

Amazing Figures and Butter Book—Free

Fill in and mail us the coupon below and we'll send you this literature free. It tells some startling things about cream and butter losses and how to stop them. You need this information. Send us the coupon today.

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Please send me, free, all your literature on Cream Production and the books about the Stewart Speed Indicator for Cream Separators.

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Dairy.

CONDUCTED BY COLON C. LILLIE.

INFLUENCE OF COWS' FEED ON FLAVOR OF MILK.

The Department of Agriculture recently reported the result of experiments to test the effect of oats on the flavor of milk. These experiments showed that oats do not have the beneficial effect on the flavor of milk which many dairymen believe. But as corn and bran constituted the ration tested against oats, the public has gained the impression erroneously that the Department recommends the feeding of corn and bran to improve the flavor of milk. Of 50 opinions expressed regarding the flavor of the samples, 25 preferred the milk from cows fed corn and bran. As 16 preferred the milk from cows fed oats, and nine expressed no choice, it does not appear that either ration has any decided advantage over the other. There can be no great superiority in the bran and corn when one-half of the opinions were either indifferent or were in favor of the other milk. In view of these experiments the Department does not recommend the feeding of bran and corn to improve the flavor of milk. Oats, corn, alfalfa hay, cottonseed meal, linseed meal, bran, gluten and other good feeds for dairy cows when properly fed in reasonable amounts, produce a fine-flavored milk, but there is no substantial evidence that any one of them is superior to any of the others in this respect.

The relative prices of the different feeds will determine in most cases which are to be preferred in making up a ration for dairy cows.

GRAIN RATION FOR CORN SILAGE AND ALFALFA HAY.

Will you balance me a ration for grade Holstein and Durham cows weighing from 1,000 to 1,200 lbs. and giving from 20 to 40 lbs. of milk a day? Am feeding all the first-class ensilage and alfalfa hay they will eat up clean twice a day.

Kalamazoo Co. C. M.
Theoretically, corn silage and good alfalfa hay make a balanced ration so far as the food nutrients are concerned; that is, you can get just about the right proportion of protein and carbohydrates. But this isn't all there is to a well balanced and efficient ration. A ration should be balanced in two ways. It should have the right proportion of the food nutrients and it also should have a certain amount of grain in proportion to the bulky part of the ration. If you try feeding a cow entirely on bulky food she can't do her best because she can't eat enough of it to get food nutrients enough to produce a maximum flow of milk. About one-third of the ration should be concentrates. Now if this alfalfa hay, being very rich in protein, balanced up the food nutrients in the corn silage, then what we want to do is to furnish a grain ration that contains the food nutrients in about the same proportion in this case as the bulky part of the ration, and we can do that nicely by feeding corn and oats ground together and cottonseed meal. Corn and oats do not contain a large enough percentage of protein for a cow to do her best, although they are both good feeds, and you have to mix a little cottonseed meal with them. I would recommend, therefore, that you feed the cows two pounds of cottonseed meal per day and then feed a sufficient amount of the corn and oats to give each cow from three-fourths to one pound of grain per day for every pound of butter-fat that

she produces in a week. Or feed a pound of grain per day for every three or four pounds of milk which the cow produces. This will make a balanced ration, a liberal one, and the cows ought to produce a maximum flow of milk.

HOW TO PREVENT COW FROM PUTTING HEAD THROUGH WIRE FENCE.

Kindly give me a humane and efficient way to hamper a cow that has the habit of reaching through a wire fence, after a time causing the wires to slack, then she will crawl through. Montcalm Co. E. A. S.
The best way, of course, is to have a woven wire fence with six-inch mesh. Then the cow can't get her head through and there will be no trouble whatever. But if you have the old-fashioned barb wire fence, or a fence with a foot mesh, or something of that sort, why you have to do something else. The best way I know of is to put a bull ring into the cow's nose and run a wire from the bull ring to the tip of each horn and fasten it. She will let the fence alone for quite a long time, at least, and I don't think she will ever bother you again. This will not hurt the cow in the least if she keeps away from the fence. If she goes to put her head through the fence, the fence will press down on these wires and pull her nose, and she will quit.

RYE AND SAND VETCH FOR SILAGE.

I intend to build a silo this spring and want to fill it with sand vetch and rye. Some tell me it will not keep. I would like your advice. Mecosta Co. W. H. B.

Rye and sand vetch are not good crops to put into the silo, as rye is a hollow-stemmed plant. This stem is full of air and when it is put into the silo you have got a large per cent of air in proportion to the bulk of your plant. Not only that but rye is rather a dry plant. It doesn't contain so very much juice, even when it is put in at the right time. Consequently you will get a greater degree of heat and more fermentation with a greater loss, even in the best silo, with rye than you would with corn. Sand vetch is a leguminous plant and will work a little bit better, but my idea would be to make the rye and sand vetch into hay and cure it dry. This can be done, and it comes at a time of the year when one can do this nicely. Then I would raise corn to put into the silo and feed the corn silage as a succulent food, and use the rye and sand vetch hay with it to very good advantage. You will certainly get better results than you will if these crops are put in the silo.

VALUE OF A TON OF SILAGE—HOW TO ESTIMATE ITS WEIGHT.

How many tons of silage in a silo 9 1/2 ft. in diameter and 10 ft. depth? Silo is 26 ft. high and was filled full last fall. Corn was a fair crop but was frosted before cut. What is the value of the silage and what could I afford to pay for it, it being where I won't have to move it?

Hillsdale Co. R. J. N.
A cubic foot of silage, on the average, in a silo, will weigh about 40 lbs. It will weigh more towards the bottom. In the bottom 10 feet of the silo I should say it would be safe to figure 50 lbs. to the cubic foot. Silage is usually estimated to be of one-third the value of timothy hay, three tons of corn silage being worth as much as one ton of timothy hay. In the cow testing associations silage is usually charged to the cows at \$3.50 per ton. If the corn was only slightly cut with the frost I don't think it lessened its feeding value very much. If it was put into the silo soon after it was cut and there would be enough moisture to keep it in good shape.

15⁹⁵ AND UPWARD ON TRIAL.

AMERICAN CREAM SEPARATOR

A SOLID PROPOSITION to send fully guaranteed, a new, well made, easy running, perfect skimming separator for \$15.95. Skims warm or cold milk; making heavy or light cream. The bowl is a sanitary marvel, easily cleaned.

Absolutely on Approval.

Gears thoroughly protected. Different from this picture, which illustrates our large capacity machines. Western orders filled from Western points. Whether your dairy is large or small write for our handsome free catalog. Address:

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AMERICAN SEPARATOR CO. BAINBRIDGE, N. Y.

The Glazed Tile Steel Reinforced Guernsey Silo

THE FREE GUERNSEY BOOKLET contains valuable information that every prospective silo buyer should have. Tells why Guernseys are proof against moisture, air, sun, wind, fire and time—No painting, no repainting. Agents wanted. Write for booklet, guarantee, etc., FREE.

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Be an early buyer and save money on a Kalamazoo Wood or Tile Silo. Galvanized All-Steel Door-Frame provides continuous opening and safe, convenient ladder. Your choice of Tile Block Silo or seven kinds of wood—all Kalamazoo Quality. Catalog and special offer, free on request. Write today.

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Increase production at a lower cost. Better try it, you can't lose. Write T. F. Marston, Bay City, E.S., Mich.

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Just put your name and address on a postal card and get my new Separator book free.
Saves \$35 to \$50
On the latest, most modern, most sanitary cream separator built. Gearing runs in a constant bath of oil and all enclosed, dust and dirt proof. Closest skimming, new type disc bowl. A lot of New Sanitary features not found on other makes. One-half the price of the old style, cumbersome machines selling through agents and dealers. Buy direct from factory and save big money. Get my new Catalog. A postal brings it.
W.M. GALLOWAY, PRES.
William Galloway Co.
183 Galloway Station, Waterloo, Ia.

The Proof of Any Silo is in Its Silage

If your silage is perfectly cured, succulent and palatable, free from mold, uniform from center to circumference, untainted by foreign matter, then you have a good silo. The

INDIANA SILO

assures you of these results. Let our silo help you. Our Early Buyers' Proposition will save you many dollars in the purchase of an INDIANA SILO. In quality and economy of service it stands without a peer.

"Silo Profit", the "Watch-Tower" story and our new catalog all free. Address nearest office.
THE INDIANA SILO CO., 582 Union Bldg., Anderson, Ind.
Kansas City, Mo., Des Moines, Ia., Fort Worth, Tex.
582 Exchange Bldg., 582 Indiana Bldg., 582 Live Stock Ex. Bldg.

REASONS why the is the BEST ROSS SILO

We use Guaranteed Long Leaf Yellow Pine that will last longer than any other wood, except cypress. The highest possible grade of Oregon Fir is used.

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HOLSTEIN BREEDERS AT GRAND RAPIDS.

The West Michigan Holstein Breeders' Association held the last of a series of three winter meetings at Grand Rapids April 1, and a program of interest to the cattle men was presented. Arthur Clarke, of Alto, the new president, in his opening remarks thanked the members for the honor bestowed on him. He spoke of the valuable work of Secretary Harper and urged every member to do his duty. President Clarke introduced a phase of work that is really vital—that of interesting the boys in pure-bred cattle, and the remarks made by Ex-President Willard, Secretary Harper, C. F. Barnum, of Coats Grove, and others along this line were very stimulating. It is worthy of notice that Messrs. Clarke, Willard, Harper and others set an example by bringing their boys along to attend this meeting and while some of the boys are small they remained throughout the sessions and absorbed much good from the talks.

M. W. Willard, of Kent county, has 160 acres and a herd of pure-bred black and whites. He has three boys and has given each of them a quarter interest in the personal property on the farm. The boys take more interest now and give the stock better attention. When company comes they are eager to show them around and to talk pedigree. Mr. Willard and sons have lost some valuable animals through tuberculosis recently but they are not quitters. The herd has been placed under federal inspection.

Getting the Boys Interested.

"My three boys who are here today," said Secretary Harper, of Barry county, "are still of school age, but when through I hope that they will come into the business with me. Our boys will go on to greater success than we can hope to attain, and it is one way of solving the problem of keeping boys on the farm."

C. F. Barnum, a young breeder who, with his brother, is making a start at Coats Grove with Holsteins, spoke of the profit side of the business. The Barnum boys are M. A. C. graduates, and state that they do not know of any line of greater financial promise to the young breeder than that of raising Holsteins. It was pointed out that old breeders are usually glad to help the young man get started and that bankers will do almost anything to help a decent fellow and a worker. It was stated that a man cannot afford to raise anything but thoroughbreds, even on a small farm.

Profit in Marketing Milk.

Jason McElwain, of Barry county, owner of a farm near Hastings, told of his successful experiences with black and white cattle. He supplies market milk for the city and being unable to get sufficient milk for his trade, started his Holstein herd 18 months ago, investing \$650 in three females and a bull calf. The result has been very profitable. Peter Buth and Elmer McCoy, of Kent county, gave impressive figures on the profit side of Holstein raising. Mr. McCoy has six boys and expects to make a pure-bred cattle man of each one.

Exhibiting at the Fairs.

The afternoon session opened with state fair talks by officials, who asked the co-operation of the breeders in making the shows a success this fall. President Brewer, of the West Michigan Fair, urged the need of exhibits from the farms rather than from the stores of merchants, and it is the aim to give the show the distinct country-flavor this year. J. Fred Smith, of Byron, a member of the executive board of the Michigan State Fair, urged especially that the Holstein people of the state should get together and make a black and white show

in Detroit in September that will attract nation-wide attention. He is enthusiastic with reference to the value of advertising and points to wonderful results that will come to Michigan breeders if they will assemble an exhibit of 300 to 400 cattle at the state fair. The West Michigan breeders who will show at the Grand Rapids fair are discussing the plan of showing also in Detroit this year.

The date of the third annual consignment sale of Holstein cattle by West Michigan breeders is June 10, the place is Comstock park, Grand Rapids, and the auctioneer will be Col. B. N. Kelley. F. D. Cutler, of Wayland, member of the sales committee, states that 68 to 70 head of cattle have been pledged and that it is a first-class lot of pure-breds, with prospects bright for the sale.

Tuberculosis Discussion.

Dr. Frank Hays, of Detroit, field man of the federal bureau, gave a valuable talk on requirements in the government supervision of herds in controlling tuberculosis. It was shown that the general aim is sanitation or prevention and that in the case of animals that react to the test, that segregation or complete separation from the rest of the herd is of vital importance. A total to date of 23 members of the West Michigan Association have placed their herds under federal supervision for the control and eradication of tuberculosis and Dr. Hays has begun his work in this section of the state. A committee, composed of M. W. Willard, E. W. McNitt, and Peter Buth, was appointed to pay the expenses of Dr. Hays. It was voted that each man whose herd is under government inspection shall pay \$5 and an additional ten cents for each animal tested, and under this plan the burdens of the afflicted, so to speak, will be eased somewhat. The extra expense of having animals re-tested, or slaughtered, will come out of the common fund. "What is our association for, if not to co-operate and help its members?" inquires Mr. Willard, who suggested this plan.

There is still some opposition to the present method of dealing with tuberculosis, as shown by the remarks of H. H. Stroud, of Hopkins, and others. They believe that the treatment is too heroic and that the burden placed on the cattle owner is greater than he should bear.

Preventing Tuberculosis.

B. E. Hardy, of Owosso, who started in the pure-bred Holstein business with one cow 35 years ago, has avoided tuberculosis altogether. He uses individual stalls and has never gone outside for stock, except for young bulls.

The association has been invited to Long Beach Stock Farm, Gull Lake again for its August picnic, but will probably meet instead at one of the parks in Grand Rapids because of greater convenience in reaching the same.

Kent Co.

ALMOND GRIFFEN.

SILAGE FOR A SERVICE BULL.

Is there any harm in feeding ensilage to a service bull; that is, will it have any effect on not being sure of producing calves?

Van Buren Co.

A. G. H.

There is not the least bit of harm in feeding silage to a service bull, providing you don't feed him too much. You don't want to feed a service bull too much of anything so that he gets excessively fat. He simply wants to be kept in good thrifty condition. It won't do to feed a service bull as much silage as you would a good dairy cow giving a good flow of milk. A bull wants more of a maintenance ration. Fifteen pounds of corn silage per day would do the bull good instead of harm. He should have a little grain besides.

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THOUSANDS OF BABCOCK AND other tests have proved that the De Laval skims closer than any other cream separator under any conditions and particularly under the harder conditions always experienced at times.

JUST THINK WHAT A loss of as little as 10 cents worth of cream at each skimming means to you in a year—twice a day for 365 days—over \$70.00, and with as many as ten cows the cream losses alone from an inferior separator usually amount to more than this.



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DE LAVAL SEPARATORS ARE IDENTICAL IN ALL SIZES, for one cow or a thousand, and the differences between separators are just the same with the smallest machine and the largest. They mean as much relatively to the little as the big user.

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THESE ARE THE REASONS WHY DE LAVAL SEPARATORS ARE cheapest as well as best, why thousands of other machines are yearly being replaced with De Laval and why their use is rapidly becoming as universal on the farm as in the creamery.

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The double inside and outside walls give a perfect seal for cement, absolutely seal the vertical joints and prevent air leaks. Its four walls and triple air chamber give solid construction, that is sun-proof, air-proof, frost-proof, time-proof, and fire-proof.

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Made of the finest Brazil glazed, vitrified fire-clay, as permanent as the everlasting hills. Any mason can erect it. Once up, it will stand for centuries without painting, patching, repairing or other attention.

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Save your fruit, vegetables, potatoes,
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Not always lowest in price but
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are receiving the same careful attention that has made our field seeds famous and are of the highest quality that can be produced. Write for free catalog.
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READ THIS
The Department of Soils of M. A. C. reports that the roots of a maximum crop of red clover in one acre of ground contains as much nitrogen as would be added to the soil by an application of 7 tons of barnyard manure. If the soil contains acid a maximum crop of clover cannot be grown.
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Horticulture.

Where the Apples Grow.

ONE of the most interesting exhibits at the recent apple show at the Agricultural College, was an apple map prepared by several of the horticultural students. The map is shown in the accompanying cut. The figures used were obtained from the last United States census report, and are the latest official information published by the government. As the statement on the map indicates, each dot represents 100,000 apple trees. If a county was credited with 100,000 trees one dot was placed in it; if it had double that number, two dots were used, etc.

There are several interesting lessons which may be learned from the map. Perhaps the chief one of these is the enormous number of trees east of the Rocky mountains, as compared with the number west of the mountains. Have you ever heard of Alle-
gan, or Van Buren, or Berrien county

on the map. These are northwestern Arkansas, northwestern Missouri and adjoining portions of Kansas and Nebraska, southern Illinois, southern Michigan, eastern Ohio and portions of West Virginia and Pennsylvania, the eastern slope of the Appalachian Mountains, and last, but by no means least, western New York, particularly the southern shore of Lake Ontario. The New England states still have a large number of trees, although they are quite uniformly distributed.

The large area in northwestern Arkansas covers Benton and Washington counties, which easily lead the entire country in the number of trees, the former with 2,465,870, and the latter with 1,793,645. There are nine other counties which have over half a million trees each. These counties are Santa Cruz county, California; Marion county, Illinois; Greene and Webster counties, Missouri;



Map Showing Distribution of Apple Trees.

apples? And yet each of these counties has practically the same number of trees as the Hood River Valley, which is known over the entire world for its apples. Advertising is one of the chief causes of this fame, and it may prove to be a method for obtaining better prices and markets for Michigan fruit.

East of the Rockies there are seven quite distinct apple regions indicated on the map. These are northwestern Arkansas, northwestern Missouri and adjoining portions of Kansas and Nebraska, southern Illinois, southern Michigan, eastern Ohio and portions of West Virginia and Pennsylvania, the eastern slope of the Appalachian Mountains, and last, but by no means least, western New York, particularly the southern shore of Lake Ontario. The New England states still have a large number of trees, although they are quite uniformly distributed.

Michigan's Apple Opportunity.

WHILE Michigan stands only about seventh in the number of apple trees within her borders, she would show a much better standing if the number of barrels of good apples produced were considered. Some of the southern states, ahead of her in the list above shown, have thousands of apple trees which are given practically no attention. Therefore, as apple producing states they should be heavily discounted.

When it comes to the opportunity of making the most of what she has in the apple line, there is no state that can equal Michigan, and if this state does not head the list of apple producing states, it is because the fruit growers in the state have not taken full advantage of the opportunities offered them. There is no state which has better soil and climatic conditions for the growing of apples of quality and appearance than Michigan, and no state as well located with reference to the market centers as this.

It, therefore, behooves Michigan growers to come to the full realization of their opportunities. Those who are growing good fruit should

pack fruit good and then advertise so that others may know that good fruit is grown and packed in Michigan. Those who have good orchards and are not taking care of them are letting opportunities slip by, and really, justly be accused of criminal neglect, because their neglected orchard is a detriment to the state as well as to themselves.

And lastly, Michigan fruit growers should distribute more of the brotherly love among themselves, and get together for counsel with each other. The local and the state horticultural societies offer excellent opportunities for this purpose. It is certain that some sort of co-operative understanding is necessary before Michigan can hope to attain her proper standing among the apple producing states of the Union. Although we generally do not realize it, this is a thing which concerns each and every fruit grower, even from a selfish standpoint.

In justice to the man from whom you buy trees or plants, use care in heeling them in if they are not set when received.

FUNGICIDAL VALUE OF SPRAY MATERIALS.

Interesting work has been done by the Maine Experiment Station with the common fungicides. The work was mainly done to determine the value of lime-sulphur and Bordeaux mixtures as fungicides, and with reference to fruit and foliage injury.

They found that Bordeaux mixture was the best fungicide of the two, but that in a great many cases the russeting caused by the Bordeaux more than overcome the beneficial effect it had as a fungicide. It was found especially bad on the Ben Davis, often causing russet protuberances on the apples.

Results with Lime-Sulphur.

Lime-sulphur, one-fifth stronger than the standard summer dilution, or about one and one-quarter gallons to 50 of water, gave very good results as a fungicide although not quite as good as the Bordeaux. In comparison to the Bordeaux it showed very little leaf injury and therefore produced a much larger percentage of salable fruit.

The effect of the two sprays on the foliage was also noticed, and in this respect Bordeaux also did much more damage than the lime-sulphur. It was so serious in one orchard of Baldwins and Ben Davis that it had to be discontinued. In five consecutive years they had Bordeaux injury on the foliage to some extent to contend with. Outside of occasional burnings where the mixture was applied too strong, the lime-sulphur produced no injury.

Fungicidal Value of Arsenate of Lead.

The fungicidal value of arsenate of lead was also tested and it was found that about two pounds of the dry arsenate of lead, or four pounds in the paste form, gave a fungicidal effect almost equal to that of the standard dilution of lime-sulphur, with the usual amount of lead added. The statement was made that it was not beyond the range of probability that arsenate of lead could be used as a summer fungicide and give results with the least amount of fruit and foliage injury. The only injury noted was very slight, and on the foliage only. It was thought that this was due to the killing out of scab spots on the foliage by the lead. The possible program for spraying suggested was lime-sulphur or Bordeaux for a dormant fungicidal spray, and then about four pounds of lead to 50 gallons for the remaining summer sprays. It was suggested that this would do away with foliage and fruit injury, as they had found that Bordeaux injury was caused by the latter sprays. This is not in accord with experiments and experience in this state, as Bordeaux injury was found possible from any and all of the sprays, including the one before the blossoms.

MANURING YOUNG TREES.

The common practice of using stable manure in planting fruit trees, cannot be recommended. When a tree is planted its activity should be the development of a strong and extensive root system. If large amounts of fertilizer are placed around the roots of a tree, the root growth will naturally not be so extensive as under normal conditions because there will be no necessity of its searching far for sustenance, and when the supply of food materials provided at planting by the addition of stable manure is exhausted, the root system will not have grown sufficiently to secure food enough to keep up normal conditions in the growing tree. What was done with the idea of heeling the tree will thus only serve to retard its growth.

TROUBLE DEPARTMENT.

Too Much Growth on the Peach Trees.

What can I do with my three-year-old peach trees? The crown grows so dense every year that no sun or air can get through. Some say that plums, peaches and cherries must not be pruned. I have trimmed them some every year, but they have such rank growth that they fill as full of branches in one season as though they had not been trimmed.

Leelanau Co.

J. O.

Undoubtedly your peach trees are on quite rich soil or you have fertilized them too much. Heavy pruning will also tend to produce considerable wood growth.

I would suggest that you prune lightly, cutting out the weak laterals and heading back the new growths slightly. Cultivate less than you have and cease cultivation early in the season, say about the first of July. At that time sow to some non-legume cover crop; rye would be good if it is turned under before it gets too high in spring. Do not fertilize in any way. If you can not stop excessive growth that by treatment, growing a crop of corn, tomatoes or melons should be resorted to to get some of the excessive fertility out of the ground.

Often young trees make quite large growth but after they come into bearing the growth is brought down to normal. Do everything to encourage early bearing. The treatment suggested above will tend to do that.

It is a mistaken notion that plums and peaches should not be pruned. With peaches, good fruit cannot be grown without pruning. Cherries are often grown quite well without pruning but an occasional pruning when the tops get too thick will benefit them.

Alfalfa in the Orchard.

I have an orchard of about three acres, plowed last fall. Would like to seed it to alfalfa this spring. I will drag it good and smooth. Three years ago I got a big crop of mammoth clover from it. Would it be all right to seed this spring?

Kent Co.

A. E.

From the alfalfa standpoint, it would undoubtedly be all right to seed the orchard to it this spring. Be sure that you have the seed bed in a good state of cultivation. Also apply lime to the soil and use some source of inoculation and you will very likely have success with the alfalfa. As to whether you will have success with the orchard, it is a matter of some doubt. From the orchard standpoint the practice you mention is not a good one. The alfalfa roots go quite deep and can not help but draw considerable moisture from the trees. The matter of moisture is of considerable importance in the raising of fruit, as the fruit is over 90 per cent water. The practice of growing any crop in the orchard and cutting it for hay is not good orchard practice, for after taking off the moisture and plant food in the form of hay, ground is left hard and in condition for what moisture there is left in the soil to escape. Growing cultivated crops in the orchard would be preferable to hay crops.

In young orchards hay crops are sometimes grown successfully and without injury to the trees. The tree rows are cultivated and the width of the cultivate space widened as the trees grow. The objection to this method is the likely neglect of widening the cultivated space according to the requirements of the trees.

The matter is for you to decide as to whether you want apples or alfalfa. If you want the latter you might as well cut the trees down so that they will not be in the way in the alfalfa field.

A good grafting wax can be made from one part tallow, two parts beeswax and four parts rosin. These can be mixed by heating.

"Give me a quart of oil"

This careless request may bring costly penalties



One of the surest ways to invite friction-draw and motor trouble is to say, "Give me a quart of oil."

"GIVE ME A QUART OF OIL"

invites Loss of Power

You can get full compression—complete power—only by using oil whose body suits your motor.

Correct body is seldom secured by saying, "Give me a quart of oil."

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Scoring frequently results from oil of low lubricating quality.

Too often the blame can be traced straight to "Give me a quart of oil."

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Bearings differ in type and size.

For every oil that suits your motor bearings, you will find many which will cause undue friction.

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Guesswork won't eliminate this trouble.

Suppose the body is too light for the piston clearance. The oil then works too freely into the combustion chambers. In burning, excess carbon accumulates—unless the oil's ash is light and naturally expelled through the exhaust.

An easy road to carbon trouble is, "Give me a quart of oil."

"GIVE ME A QUART OF OIL"

increases Maintenance Cost

If the oil's quality is low, more of it is necessary to maintain a film.

If its body is incorrect, you have incomplete protection for moving parts.

In either case excessive friction-draw results. Fewer miles are obtained from each gallon of gasoline. Your fuel and repair bills mount up.

How to secure the correct oil for your car

Do not say, "Give me a quart of oil."

You want an oil whose body is correct and whose quality is best suited to the requirements of your motor.

Ask for that oil and get it.

At the right we print, in part, our Chart of Automobile Recommendations.

This Chart was prepared by a company whose authority on scientific lubrication is recognized throughout the world—the Vacuum Oil Company.

It was prepared after a careful analysis of the motor of each make and model of American and foreign car.

Make a note of the grade of Gargoyle Mobiloil specified for your car in this chart. Then make sure that you get it.

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For information kindly address any inquiry to our office nearest you.



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Explanation: In the schedule, the letter opposite the car indicates the grade of Gargoyle Mobiloil that should be used. For example: "A" means "Gargoyle Mobiloil A," "Arc." means "Gargoyle Mobiloil Arctic." For all electric vehicles use Gargoyle Mobiloil "A." The recommendations cover both pleasure and commercial vehicles unless otherwise noted.

MODEL OF CAR	1910	1911	1912	1913	1914
Abbott Detroit	A	Arc	A	Arc	Arc
Alco	Arc	Arc	Arc	Arc	Arc
American	A	Arc	A	Arc	Arc
Apperson	Arc	Arc	Arc	Arc	Arc
Autocar (2 cyl.)	A	Arc	A	Arc	Arc
Autocar (4 cyl.)	A	Arc	A	Arc	Arc
Avery	A	A	A	A	A
Buick (2 cyl.)	A	A	A	A	A
Buick (4 cyl.)	A	A	A	A	A
Cadillac (4 cyl.)	A	A	A	A	A
Cartercar	A	A	A	A	A
Case	A	A	A	A	A
Chalmers	A	A	A	A	A
Chrysler	B	B	B	B	B
Cole	A	A	A	A	A
E. M. F.	Arc	Arc	Arc	Arc	Arc
Flanders	E	E	E	E	E
Ford (6 cyl.)	A	A	A	A	A
Franklin	B	A	A	A	A
G. M. C.	B	A	A	A	A
Haver 6-44	A	A	A	A	A
Haver 6-60	A	A	A	A	A
Haynes	A	A	A	A	A
Hudson	Arc	Arc	Arc	Arc	Arc
Hupmobile	Arc	Arc	Arc	Arc	Arc
"32"	A	A	A	A	A
I. H. C. (air)	B	A	A	A	A
International	A	A	A	A	A
Interstate	A	A	A	A	A
Jackson (2 cyl.)	A	A	A	A	A
Jackson (4 cyl.)	A	A	A	A	A
Jeffery	Arc	Arc	Arc	Arc	Arc
Kelly	A	A	A	A	A
King	A	A	A	A	A
Kline Mfr.	Arc	Arc	Arc	Arc	Arc
Knott	B	A	A	A	A
Kurt	A	A	A	A	A
Lea	A	A	A	A	A
Mack	A	A	A	A	A
Mack Jr.	A	A	A	A	A
Martin	A	A	A	A	A
Marmont	A	A	A	A	A
Manwell (4 cyl.)	E	E	E	E	E
"6"	E	E	E	E	E
Moroso	A	A	A	A	A
Mitchell	A	A	A	A	A
Moline	A	A	A	A	A
Moline Knight	A	A	A	A	A
Moon (4 cyl.)	A	A	A	A	A
National	A	A	A	A	A
Oakland	A	A	A	A	A
Oldsmobile	A	A	A	A	A
Overland	A	A	A	A	A
Packard	Arc	Arc	Arc	Arc	Arc
Packard Detroit	E	E	E	E	E
Patent	A	A	A	A	A
Peoria	Arc	Arc	Arc	Arc	Arc
Pierce Arrow	Arc	Arc	Arc	Arc	Arc
"Coml."	Arc	Arc	Arc	Arc	Arc
Pope Hartford	A	A	A	A	A
Premier	A	A	A	A	A
Stamper	A	A	A	A	A
Reo	A	A	A	A	A
Edson	A	A	A	A	A
Speedwell	Arc	Arc	Arc	Arc	Arc
"Road"	A	A	A	A	A
Stewart Duryea	Arc	Arc	Arc	Arc	Arc
Studebaker	E	E	E	E	E
Stutz	A	A	A	A	A
Vette 9-45	A	A	A	A	A
Vette 9-50	A	A	A	A	A
Waller	A	A	A	A	A
White (Gas)	Arc	Arc	Arc	Arc	Arc
Winton	Arc	Arc	Arc	Arc	Arc



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DETROIT, APRIL 18, 1914.

CURRENT COMMENT

In another column of this issue appears the first section of an article describing the work which is being undertaken by the Farm Management Department of the Michigan Agricultural College, which is conducted in co-operation with the United States Department of Agriculture. This article, which will be completed in the next issue, is intended to inform the readers with regard to the general plan under which this work is being undertaken, and the steps which are necessary on the part of the interested farmers of any county to participate in its immediate and direct benefits. It is probable that the Farm Management studies which are being conducted in the counties already organized for this work will prove the source of information which will be of general value to the farmers of the state, but to secure the greatest community value from the work, it is, of course, necessary to employ a county adviser, which can only be done under the present plan through the influence of a local organization and the financial backing of the county itself or of interested citizens who will contribute to its success.

In a considerable number of counties already organized and in which this work has been in progress during the past year, the majority of the farmers have apparently taken less interest in the proposition than its importance warrants. In some of these counties the work has been almost entirely supported by the business men, so far as the providing of necessary funds is concerned. Their interest in the public welfare thus exhibited is to be commended, inasmuch as any financial benefit which they may be able to gain from this work will be indirect, since the farmers must first benefit from it before any advantage can accrue to them. On the other hand, a degree of conservatism on the part of farmers regarding this work is but natural, until it has been demonstrated in a practical way that practical beneficial results will accrue from it.

Now that the work has been in progress for a year in a number of Michigan counties, there should be some evidence of valuable work accomplished and some promise of more valuable future results, if it is of sufficient promise to make its general adoption throughout the state a

profitable investment for those engaged in Michigan agriculture. It is our purpose to study this work in some detail during the coming season, with a view of giving our readers, so far as it may be possible, an accurate idea of the nature of the work already done, and the results which have accrued in some of the counties where farm management work has been in progress during the past year. In the meantime, it will profit every reader to carefully review the articles above mentioned, setting forth the plan under which the work is now being conducted.

In a recent issue, the Farm Cost Accounts, ing some form of cost accounts upon

the farm, was made the subject of editorial comment. On the first page of this issue will be found an article on the subject of profitable summer pasture for the pigs, in which the results of carefully kept cost accounts in pig feeding experiments conducted at a middle western experiment station are given. The facts presented show conclusively the advantage of having accurate data upon this subject, which fortunately is one upon which data of this kind will give a fair general idea of the relative profit in different methods of pig feeding upon the average farm. Such cost accounts as applied to the growing of general farm crops, however, are much more valuable where kept upon the farm itself, since local conditions affect the cost of production materially. It is far more necessary that Michigan farmers should know the cost of producing a bushel of potatoes or a bushel of beans upon their farms under their conditions than it is that they should know the cost of producing a pound of pork, important as that may be, and the only way that they can arrive at an absolute knowledge on these points is to keep an accurate account of the items of cost which enter into the production of the crop throughout the season.

To the end that a general interest may be taken in this proposition by Michigan Farmer readers, we shall undertake in future issues to give simple forms of cost accounts which will give approximate knowledge of the cost of growing different farm products, and discuss in a practical way the methods which should be used in arriving at a proper distribution of items of cost which are in the nature of an indefinite or unknown quantity. In the meantime, may we not hope that every reader will be sufficiently interested in this important proposition to keep an accurate record of the labor expended upon the fields intended for crops this season, from the beginning of the farming campaign. By so doing, this important work will be started in the right way, and results of considerable value will be assured, while a future study of the proposition will make the interpretation of the facts gained from such a record more valuable to the farmer who takes the trouble to keep the same.

With the coming of settled weather the problem of the care of the roads is one which merits immediate attention. In some communities the King drag has already been used to good purpose in smoothing the surface of the earth roads and hastening the drying out and settling process. In many other communities this has not been done, simply because the people who live in those communities have never seen an illustration of the effect upon the roads of this kind of treatment in the spring of the year. These communities need an object lesson along this line, and it would not be an expensive proposition for any farmer to af-

ford them such a lesson by constructing a King drag and using it upon a small section of road adjacent to his farm, in case he cannot get the highway officers interested in the matter. It is probable, however, that the highway officers could be interested in at least making a trial of this method of caring for the earth roads, if some one or more interested farmers would take the proposition up with them in the right way. Why not try it in your road district, Mr. Reader? You can easily and cheaply demonstrate that a day's work done with a King drag at this season of the year will be more effective in the betterment of the roads, than a week's work as ordinarily done in road repairing later in the season, to say nothing of the pleasure and profit of having the roads more quickly placed in good condition for spring and summer use.

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Some papers, apparently, care nothing for the confidence of their readers, judging from the class of advertising they carry. The publishers of this paper, however, care so much for the confidence of their subscribers that no amount of money could induce them to publish an advertisement if they knew it to be of doubtful character.

AN EXPLANATION.

We wish it to be known that the publishers of the Michigan Farmer are in no way or manner whatsoever, connected with the Michigan Farmer Elevator Co., of Detroit. Occasionally a letter intended for them is addressed to us, which calls for this explanation.

HAPPENINGS OF THE WEEK.

National.

The copper miners of the Upper Peninsula of Michigan have voted to call the strike off which has continued since July 23, 1913. Reports show that the decision against holding out longer was made by a strong majority, 1,012. The men won everything they demanded except recognition of the Western Federation of Miners. During the course of the strike several deaths occurred, the Italian Hall disaster on Christmas eve, the deportation of President Moyer of the Western Federation of Miners, investigations by Governor Ferris and a congressional committee, and one by a grand jury.

The Senate committee having in charge the matters pertaining to the repeal of the Panama free tolls measure, will continue hearings until the 23rd inst. A long list of notable men will appear before the committee to give testimony and opinions on the advisability of repealing the law passed by the previous Congress and which provides for the free passage of American coastwise ships.

Four gunmen were executed at Sing Sing prison, New York, Monday morning, for the murder of Herman Rosenthal, a gambler.

John Lind, President Wilson's personal representative in Mexico, has come to Washington for conferences with the President and Department of State. No disclosures have been made as to the character of the information he brings.

The members of the Michigan National Guard will be divided among three camps this summer for training, the state camp site at Grayling be used for all three gatherings.

Wreckage believed to have come from the missing sealer, Southern Cross, was reported by the steamer Bloodhound, about 100 miles southeast of St. Johns, Newfoundland. This

strengthens the belief that the vessel has been lost.

The International Surgical Congress meets in New York this week and the views of foreign surgeons on efficacy of the X-ray and radium cures for cancer, are awaited with keen interest.

A campaign to educate the children of Michigan as well as adults, in the importance of mouth hygiene, is receiving the support of many prominent men of the state, including several state officials.

The Seventh Annual Conference of governors will be held at Madison, Wisconsin, June 9.

No agreement has yet been reached between the soft coal miners of central Pennsylvania and the operators. The contract expired March 31, since which time an effort has been made to agree on a wage scale, but without success.

In the triangular debate between Hope, Olivet and Alma Colleges, on the question of governmental ownership of railways, each of the institutions won in the debates at home but lost abroad.

According to figures compiled by the State Labor Commissioner, 1,234 new factories were added to Michigan's industries last year. The same authority shows the average wage for 1913 to be \$2.47 a day, or 10 cents higher than in 1912.

Experiments are showing that a new anaesthetic called urethane has several advantages over ether and other anesthetics. The heart is not so badly affected, the patient can be watched more closely, the choking sensation is absent, and there is no sickness. A disadvantage is that the experimenters have not yet been able to reduce the period of insensibility below six hours.

Foreign.

Fighting still continues in Mexico. While Gen. Villa's rebel forces have pursued the federals beyond Torreon, reports are to the effect that some of his detachments have met reverses and that the federals are again threatening that stronghold.

The Italian government anticipates a general strike of the railway employees of that country. To minimize the effect of the strike, and to facilitate communications and maintain order, the army, and members of the navy crews will be called upon to do duty in place of the strikers.

General satisfaction is expressed regarding the selection of Count Okuma to head the new cabinet of Japan. Business men especially, are pleased and the stock market shows improvement.

Additional fortresses have been captured by the federal forces of Santo Domingo, the government now being virtually in full control of the republic.

The British oil steamer Ashtabula, arrived at New York from Peru without making a single stop, being the longest non-stop steam voyage on record. The vessel uses oil as a fuel.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, ETC.,

of the Michigan Farmer, Published Weekly at Detroit, Mich., required by the Act of August 24, 1912.

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Magazine Section

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

The Farming Community and the Rural Mail Carrier.

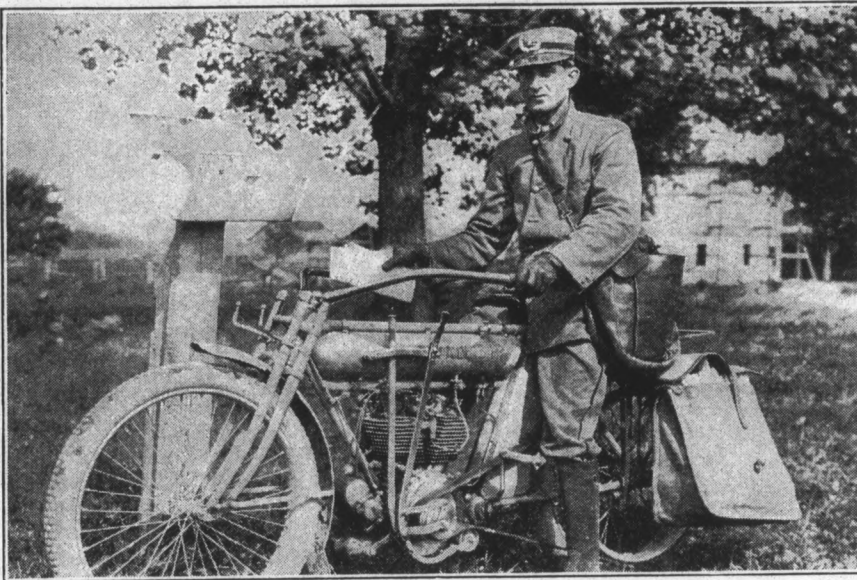
By WILLIAM TRUB.

HAVE men halted in the routine of life to measure the benefit coming from the work of the rural mail carriers? Have the vast farming regions of these states rendered unto these agents of the post-office department their due? When a service of any kind has been organized into a smoothly working system men are very apt to overlook its advantages and practically to forget that it is in existence.

The service of these men has closely tied together the progressive, active and reckless spirit of the great cities and the conservative life of the country to the direct advantage of both. The centers of population have profited by the touch of rural firmness while the country is better for the glance at the hustle and bustle of the busy thoroughfares and marts of trade. To this day the mutual aid coming to the urban and the rural communities by reason of the rural mail service is increasing, not alone in its social aspect but also in a business way.

Farm life has been broadened. Before the time of the daily visitations of the carriers the limit of interest in the thousands of farm homes over the land was the little communities with which each of these homes became acquainted in the real active work connected with the farms and the marketing of farm products, and in the social opportunities offered. But the rural mail service has obliterated the lines and made these farm homes a part not of a local community, but of the great busy world and all of its activities. It is a fact frequently stated by city people, that their friends and relatives in the country are now quite as well informed on matters occurring in the city as the urbanites themselves.

Not only has farm life been broadened by bringing to it daily accounts of world happenings but that same life has been interested in itself. Lat-



Motorcycles are Coming into Favor with Rural Carriers.

ent talents have been awakened. Leaven has been put in the lump until now the whole is leavened. How much the institution of this service by the federal government has done to stimulate the great rural awakening that is everywhere evident, no one would venture to say. The part the agricultural colleges, the press, the farmers' institutes, the traveling libraries, the various rural organizations have had in this awakening is incomprehensible, but the work of all these agencies has been made more efficient and of greater magnitude by the unflinching rounds of the rural carriers.

But the work of these men is not to be limited to the carrying of news to and fro. They are already engaged in aiding the solution of the present national problem of marketing products—not only the products of the farm but many of the products of the factory that go to the farm. The ru-

ral carrier is an important link in the parcel post service. The enlargement of that service and its adaptation to various conditions, promise to be significant in the new order of marketing and the men who bring products from and deliver articles of manufacture to the farms are quite as indispensable as any other set of men in the efficiency of the whole parcel system, from the standpoint of the farmer.

Because of the economic and social influence on farm life rendered by these men, readers will be interested in recent changes that will make their work more tolerable. The first and perhaps the most important, is the general interest in the improvement of roads. Of all things, poor roads militate most against good service by the rural carriers. But all over the land serious interest is being taken in bettering travel through the country districts. Large amounts

of money are being expended and much careful information on road engineering is being disseminated to the great help of this work. It will likely be a matter of but a few years when the dread of poor highways will be a negligible quantity in the minds of mail carriers, except perhaps for snow-bound roads in the north.

With the advent of better roads another opportunity is opened to the rural carrier and that is the kind of vehicle he uses to distribute and collect mails and parcels. The usual route is about 25 miles long. The faithful horse can cover this mileage only by using a large portion of the working day. But if, instead of the horse the automobile or the motorcycle, be used, as is now the case in thousands of instances, then the task of making the route is reduced to about three hours, which not only is advantageous to the carrier himself, but greatly improves the service rendered the public. Good roads multiply each year the number of motor vehicles being used.

Still another movement that is assisting rural carriers and making their work more agreeable, is the organizations instituted for the consideration of matters of interest to these men. These organizations furnish a place for discussing proposals for the betterment of the service, for considering problems of a local and general nature, and for crystallizing experience and making appeals for needed changes as well as for furnishing social opportunities. The influence and experience gathered through the associations have aided in many ways to improve the rural delivery of parcels and mails.

Other matters of importance might be added, but what has been said is sufficient to give the public reason to extend the greatest courtesies to these faithful men and co-operate with them, to the end of making their work pleasant and efficient.



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A Tragedy That Did Not Occur.

By ALTA LAWSON LITTLE.

WOULDNT it be jolly if a burglar should try to get into the house tonight?” exclaimed Peggy Ryan, as she made a flying leap and landed in the middle of Mary Hally's big four-poster bed. Safely ensconced in her soft, white nest, she drew her knees up and rested her chin on them while she watched Mary give her hair the essential one hundred strokes with the brush. Mary's father and brother Tom had gone into Grand Rapids for a couple of days, and Peggy was to stay nights with Mrs. Hally and Mary. “Just for company,” as Mary explained, “Mother and I aren't a mite afraid.”

“I'd like to see a real, live burglar,” Peggy continued. “Jack saw one in the county jail once and he said he didn't look a bit different from any other man, father or the minister or anyone. But I can't believe it, I'm sure they must look sort of distinguished someway. Don't you think so, Mary?”

“One hundred,” said Mary. “Yes, or a bear or Indian or something exciting,” she added. “I don't mean the burglar looks like a bear or Indians,” she laughed, seeing Peggy's puzzled face. “I was just thinking what you said first, a burglar would try to get in, and I meant or a bear or Indians try it, either. Anything for excitement. Don't you get tired of feeling everything is perfectly safe?”

“Yes, I do,” said Peggy. “Now, here we are in this little room right off your mother's, and there she is this minute right in the sitting room, and the telephone right at her hand, and our house not a quarter of a mile away. If anything should happen, she'd just ring the 'phone and every neighbor on the line would be listening and they'd all be right here before we had time to do a single thing brave. The folks that settled this country had lots more fun than we do,” she complained. “There were always bears and wolves and Indians and a war every six months or so.”

“Girls got chances then to be famous,” added Mary, as she climbed into bed and cuddled down comfortably beside Peggy, her smooth dark braids contrasting strikingly with Peggy's frowsy yellow hair. “They were always recognizing spies or going through the woods for miles and miles, and living on berries, to tell the soldiers in the forts that the Indians were on the warpath. There isn't a single thing for us to do, Peggy, but to eat and sleep and wash dishes and go to school, and be comfortable and uninteresting.”

“That isn't always the worst thing that can happen to girls,” said Mrs. Hally, coming into the room at that moment. “Do you girls want to be uncomfortable?”

“Not exactly, Mrs. Hally,” said Peggy, propping her head up on one bent arm. “But we just think the girls a hundred years ago had lots more fun.”

“So you think it would be fun to throw out your oil stove and cook in a big kettle over a fireplace, and live in a draughty log house instead of your warm brick one, do you?” asked Mr. Hally. “I suppose you girls would be willing to carry all the water from the spring on the other road, and not

have any school to go to, and only see each other once or twice a year, and then come on the back of a plow-horse instead of in an automobile?” teased Mrs. Hally. “Is that your idea of fun?”

“Oh, no, mother,” said Mary. “We just meant some excitement. Peggy said a burglar and I said bears or Indians, and here you are making out we want to live like savages.”

“Yes, and if a burglar did try to get in you and Peggy would hide your heads under the pillows, while I went after him with the poker,” said Mrs. Hally.

“The idea,” said both girls in a breath, “we'd show you.”

“I'd run straight for the 'phone and call father,” said Peggy.

“And I'd shoot the revolver out of the window three times,” said Mary.

“While I was driving him away from the front door with the poker,” finished Mrs. Hally. “I stick to a safe weapon. I'm going to take away the light and you girls go to sleep. You'll be dreaming of robbers all night. That rarebit was enough for you, without all this talk of midnight marauders.”

“Honest, what would you do, Peggy, if you should hear someone?” whispered Mary after Mrs. Hally had left them in darkness, the girls snuggled down under the downy comfort.

“Never trouble trouble, till trouble troubles you,” quoted Peggy with a giggle. “I suppose I'd be scared stiff, but just the same I think it would be fun to find out.”

“So do I,” said Mary, yawning. “More fun than it will be getting our history lesson tomorrow if we don't get to sleep.” And she turned her back to Peggy. “Go to sleep, and maybe we'll both dream something exciting, anyway. Be sure to remember.”

Mary's regular breathing soon told Peggy she had fallen asleep, but Peggy's eyes refused to close. The strangeness of the bed naturally kept her wakeful, and her active little brain had seized upon all the alluring possibilities of a midnight encounter with burglars. A dozen things which might happen shot through her mind as she heard Mrs. Hally fix the furnace fire, wind up the clock, make the rounds to see that windows and doors were properly fastened, and finally come into the adjoining room and make ready for bed. Peggy turned over and over and thumped her pillow vigorously, but Mrs. Hally and Mary had long been asleep before she finally quieted and dropped off into slumber.

It might have been hours or only minutes later that she awoke with a start to find Mary missing from her side. She sat up in bed and listened. From the sitting room she caught a dim flicker of light and at first thought it must be morning and that Mary had dressed and left the room. She was about to hop out of bed, when she caught the sound of Mary and her mother whispering in the next room, and heard outside on the porch the sound of a measured tread, accompanied by a dull thump, thump, thump on the side of the house. Peggy's heart climbed uncomfortably near her throat, and she threw herself back into bed and pulled the quilts

tightly over her head. Then she remembered Mrs. Hally had said that was just what she would do at the first hint of danger, and with one quick bound she cleared the bed and dashed into the room with the other two.

Mrs. Hally, with her favorite weapon, the big poker, in her hand, and the light of battle in her eye, stood in the middle of the floor, with Mary clinging to her, crying and whispering, “O, don't open the door, mother, don't open it. You'll be killed, I know you'll be killed.”

“Nonsense,” whispered Mrs. Hally. “If it was really someone who wanted to get in and harm us, do you think he'd make all that noise? It's Bill Peters been to town and got drunk, and he doesn't know where he is. Let me go, Mary, and I'll show him he hasn't got his wife to deal with,” and Mrs. Hally brandished her poker threateningly.

But Mary only clung tighter, and Peggy, throwing herself upon Mrs. Hally upon the other side, added her pleadings.

“Oh, Mrs. Hally,” she quavered, “Don't open the door. It might be a burglar or an escaped prisoner or a wild man or something. And if anything should happen to me, I don't know what my parents would ever do.”

“Now, listen,” said Mrs. Hally firmly. “You two girls are just excited and scared. It is much better to know who is really out there than to stand like this all frightened and nervous and wait for him to go away. Maybe it is someone who needs help. I'll tell you what I'll do. I'll open the door just a crack and peek out, and you girls stand with your hands on it to slap it shut if I say so. Come, you brave burglar fighters, you wanted excitement, now here it is.”

Mary and Peggy loosened their hold at this, and shamefacedly moved towards the door, outside of which the march went on.

With infinite caution lest the marauder hear, the three crept to the outside door. Mrs. Hally blew out the night lamp, and then with much pains, slowly and silently turned the key. She was a full two minutes turning the door knob, so great was their fear that they might be heard, though the tramping and thumping would have covered more noise than they made.

“Stoop down low,” whispered Peggy in her ear, “so if he sees the crack and shoots through it the bullet will go over your head.”

Mrs. Hally took the advice, and knelt down with her head just even with the lock. She peeked through the crack an instant, then sank on the floor in a heap.

“Oh, my poor mother, she's frightened out of her senses,” wailed Mary, forgetting caution, and springing to her mother's side. “Slam the door and lock it, Peggy, while I try to restore her.”

But with Mrs. Hally's hand off the lock, the door had swung open wider and Peggy took a look out. Outside, stalking majestically up and down in solitary state she could see Mary's pet Jersey calf. At every step it swung its long tail, which hit the side of the house with regular strokes, and gave forth the thumps which had sounded to the three like regular raps from a strong fist.

“Oh, look at our burglar, Mary, look,” gasped Peggy. “No wonder your poor, dear mother lost her senses.” And Peggy collapsed into a heap by Mrs. Hally's side.

“Well, of all things,” said Mary, coming out of her daze and slowly comprehending the situation. “He's not my burglar. It was you that wanted him.”

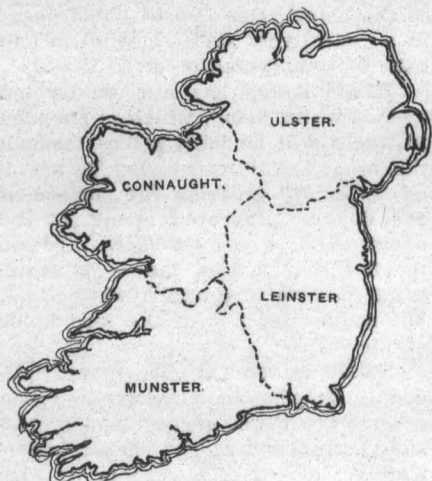
“Well, I guess we've all had about enough of him for tonight,” said Mrs.

Hally, clambering to her feet and wiping her eyes. "You brave girls can slip on some clothes and drive him back to the barnyard. Shall I telephone your parents you're safe, Peggy, while you're taking the prisoner to jail?"

"The 'phone," exclaimed Peggy. "I never thought of that. I was going to call father if anything happened, wasn't I? My, but I'm glad I didn't. If Tom and Jack ever get hold of this we'll never hear the last of it, Molly."

IRELAND.

A crisis in British politics has centered attention on Ireland. For several years back the great issue before the parliament at London has been whether, or not, the inhabitants should be allowed to have a par-



Map of Ireland Showing Boundaries of the Four Provinces.

liament for enacting local legislation, or, in other words, Home Rule. While the House of Commons of the English Parliament has favored granting the Irish people the privilege, the Lords have refused to allow it.

In the struggle a few years ago the House of Lords had their power restricted. A measure enabling the Commons to enact laws over the veto of the Lords, was passed. The essential provision of this measure is that if the Commons vote favorable upon a bill at three successive sessions of Parliament, and the Lords vote against it the first two times, the measure becomes a law after the third passage by the Commons.

The Home Rule bill is now about to be voted upon by the Commons for the third time, and there is every probability of the measure passing. This expectation has precipitated the present crisis.

Not all of Ireland itself is favorable to the granting of the Home Rule privileges. The Island is divided into four Provinces, as shown by the accompanying map. Three of these provinces, Munster, Leinster and Connaught, are striving for the adoption of the measure, while Ulster, which occupies the northern portion of the island is bitterly opposed. The latter province has threatened to take up arms should the measure be passed and has made extended preparation to carry out this threat. Amendments looking toward a compromise have been offered but not adopted. It is probable that the opposition will force an election before the final vote is taken. In the meantime the eyes of the civilized world will be upon Ireland.

The population of the island has gradually decreased since 1841. At that time there were 8,196,705 inhabitants. Ten years later the number had been reduced to 6,574,278; in 1861 to 5,798,967; in 1871 to 5,412,377; in 1881 to 5,174,836; in 1891 to 4,706,162; in 1901 to 4,456,546, and in 1911 to 4,382,000. The gradual reduction of population during the past 70 years has amounted, therefore, to nearly one-half of the number of people living on the island in 1841. The opportunities offered in America, both in

United States and Canada, and the enforcement of laws at home not always conducive to the greatest contentment, have tempted many to migrate to the western hemisphere. Our immigrant statistics show that during the period from 1841 to 1911 there were 3,994,641 persons who came into this country from Ireland.

A LONG DISTANCE FLYER.

BY ORIN E. CROOKER.

In these days when so much notice is given the mechanical birdmen and the repeated breaking, both of distance and duration records, we may well give some consideration to the flyer among the birds which appears to hold the long distance record—a record which, it is safe to believe will never be broken by the most improved of man-made flying machines.

All distance records among birds must give way before that of the Arctic tern, which covers approximately 11,000 miles twice each year on its migration flight. This species of sea bird nests from Maine northward to within a few degrees of the Pole. Most of the species, however, breed within or near the arctic circle—usually in a land of continuous day. When it migrates it goes to a region in the antarctics equally as near to the south pole. Consequently it spends both halves of the year in a land of continuous daylight and it is safe to say that many of the species experience full darkness only for the few days that it takes them to cross the tropics.

In this long flight the Arctic tern has the advantage of the bird man. It fears no storm—arctic or tropical. Food may always be found somewhere among the heaving billows over which it flies. When it becomes exhausted it can alight with equal facility upon land or sea. Its endurance is remarkable and its strength of wing the equal of most of the birds which make their homes upon the sea.

ARE ENTERTAINED BY MEXICAN REBELS.

Two prominent officials in the motor car industry, President H. M. Jewett and Sales-Manager Henry Krohn, of the Paige-Detroit Motor Car Company, have recently returned from an automobile trip which carried them across the troubled border in Mexico. At Ciudad, Juarez, they were entertained by Villa's officers and had a close view of the rebel army, in its headquarters. Their impression of the struggle in northern Mexico, Mr. Jewett gives as follows:

"The merciless character of the struggle may be appreciated," says Mr. Jewett, "when one learns that during the very early part of the morning of the same day of our visit, sixteen prisoners were led out and summarily shot. The remainder expected at any time to meet the same fate. The fighting around the vicinity of the town of Juarez has been particularly fierce. In fact this place has been by turns in the possession of either party. During the past three years it has changed hands no less than six times.

"There seems to be rather little to choose between either rebels or federals as far as military ethics are concerned. Both sides seems to be constructed pretty much on the assassin and cut-throat order and the weaker force is practically exterminated whenever a meeting takes place. Brigandage and guerilla warfare are the only terms which truthfully describe the present state of affairs. Each party is out after everything it can carry away, and that is all there is to it. The combatants are often boys as young as fifteen years, and on neither side do they appear to have any idea of what they are fighting for."

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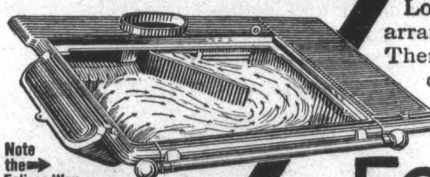
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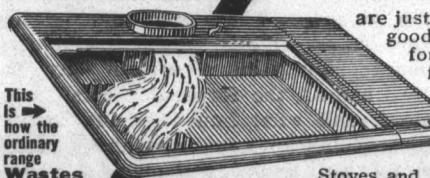
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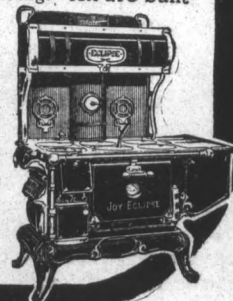
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Woman and Her Needs

At Home and Elsewhere



Don't Impute Motives.

IF there is one way more than another in which we sin against our fellow mortals, it seems to me it is in assigning motives to account for their various acts. And we are all guilty, some more so than others. How many of us have puzzled for days to decide just "why" Mary or John did a certain thing, and ended by imputing to them a motive which was, to say the least, uncharitable. When probably, as a matter of fact, Mary or John acted purely on impulse, and couldn't explain themselves why they acted thusly.

It always reminds me of the spinster who insisted on motives. A bachelor friend called on her twice. The third time she asked him his intentions, and growling that he didn't know as he had "none," he took his hat and went home.

So we are always looking for "intentions," where nothing is intended, and usually the intentions we look for are unpleasant ones.

A mother complained to me recently that one of the neighbors had made fun of her small daughter. Questioned, the matter resolved itself into this: The daughter in question is six years old. The day before she and a six-year-old boy walked home from school together, and the neighbor who made fun of the child, told the boy's mother that her son walked home with "that Smith girl."

Now the neighbor told it as a joke and had no intention of making fun of anyone. But the phrase, "that Smith girl," stuck in the mother's mind as a deadly insult. It could be capable of only one interpretation, that the Smith's were not considered just right or their offspring would not be designated as "that girl."

Only last week I learned why an acquaintance has cut me dead for six months. It seems that six months and a week ago said acquaintance was walking up the street about to meet me, and just before we quite met I looked her way and then turned and went into a store. Of course, I saw her and hurried into the store to avoid her. Her thought. Next time we met she returned my cordial bow with a frosty stare and when I came up for air I began to seek motives. I thought it was my hat, she dresses better than I do, and I was sure she didn't want to speak to so shabbily attired a person. Finally a third acquaintance got into the game and began to seek motives on both sides, and found there were none. On the day when my friend thought I snubbed her, I was so busy trying to figure out how to buy two pairs of boy scout shoes, a union suit, a half-dozen pairs of stockings and a dishpan, all with a lone five-dollar bill that I never knew she was on earth. Didn't even see her when I went into the store. This being explained to her satisfaction she explained to my satisfaction her snub to me, and everything was lovely. How much better if we had each gone directly to the other in the beginning, instead of imputing our own mean motives.

It is so warping, this habit of seeking motives. I know one clever woman who is becoming a terror to every-

one just through following this pernicious habit. The simplest thing one does or says, either good or bad, she picks to pieces trying to find out why it was done. And the causes she assigns for certain things done would fill the doer with astonishment.

As a matter of fact, who of us could tell why we do half the things we do? Most of our acts are done on pure impulse. It is seldom we sit down and figure out just how to act and what the results of certain acts will be. We act first and meditate on results afterwards when we have plenty of time to wish we had done differently. The only persons who coolly think out a plan of campaign beforehand and act accordingly are criminals or knaves. Honest folks don't need to.

Yet how many a friendship has been broken because someone sought a motive and found it in her own imagination. How much better to give your friend the benefit of the doubt, or better still, go to her if things do not look right to you and let her tell her own motive.

DEBORAH.

A BAG FOR CROCHET COTTON.

BY ESTHER A. COSSE.

Now that hand crocheting is becoming so popular, we are all having the experience of dropping our ball of thread on the floor many times while we are working. It not only soils the thread, but very often it gets twisted about the leg of a chair or table, or rolls into a place where it is extremely uncomfortable to get it.

A simple remedy for this is to make a circular bag, perhaps ten inches in diameter. Join two circles together all the way round, with the exception of a place large enough to slip the ball into. Crochet this all around with a single crochet of some color thread corresponding with material used. First make a round eyelet in the center of one circle large enough to slip the thread through. Then put ribbon straps on, not to draw up, but large enough to slip over the arm of a chair, or over your arm. It can be carried in this way if you are moving about, or hung over anything that is convenient while at work, and do away with the bother of having to pick up the thread from the floor.

The bag can be made of any material and any color, silk, cretonne, or anything else one may fancy.

TAKING DOWN THE STOVES.

BY MRS. S. E. M'COY.

A late spring with cold nights and mornings proves to many the folly of taking down the stoves too early in the season. These are the housekeepers to whom the necessity for housecleaning on a certain day in May has all the force of a commandment, and what housecleaning under these conditions means, many a reader too well knows, and many a grave-stone shows. We will not enumerate the ills it brings, but among the good it sends away are the stoves—often from every room except the kitchen.

A clear cold January day, with the mercury at 15 to 20 degrees below

zero, is absolute comfort in comparison with a damp, cold day in June. In none of the northern states should the stoves be removed from the living rooms, if the health, let alone the comfort of the family is regarded, before the middle or last of June. We have pleasant days, and warm, in May, but we cannot remember a year since we have given attention to the matter, in which there has not been a cold spell the first half of June in which a fire was absolutely necessary to the comfort of the well, and the well-being of the ill.

"Then why take down the stoves at all?" some reader will ask. We hold that in country houses, there should never be a day in the whole year in which fire cannot be built at a moment's notice. In summer an open fire-place is preferable to a stove, but if there be no fire-place, leave the stoves. There will be but few days in the whole summer in which a little fire in the morning or evening will not be needed to ventilate the room or dry it, if not to remove the chill.

In malarious districts this is of vital importance; a little fire will prevent what much quinine may not cure, and be vastly cheaper. But in houses heated by stoves there are several that may come down without detriment; and those which may remain in place should be properly cared for.

BREAD WISDOM.

The following extracts from a bulletin sent out by the Ohio State University will answer many questions about bread, which housewives frequently ask:

"Entire wheat flour is not made by grinding the whole wheat grain as the name might indicate; part of the bran coats are removed. It is usually more finely ground than Graham flour.

"Winter wheat flour does not analyze so high in protein and is usually considered not so well adapted for bread-making. Spring wheat flour is drier than winter wheat flour and takes up more liquid, consequently less flour is required in proportion to the liquid to make a loaf. Spring or hard wheat flours yield a good grade of gluten and usually produce bread of a sweet, nutty flavor.

"In dry yeast the yeast is mixed with corn meal pressed into cakes and the moisture dried out. After a time the plants in a dry cake will gradually die out and it is best to test it to see if the yeast is in good condition, by putting a small amount in a cup with warm water and a small amount of sugar. If the yeast is still alive, in a short time bubbles will come to the top of the liquid.

"In compressed yeast the plants are washed until free from impurities, mixed with starch and pressed, while moist, into cakes. The plants are in a growing state and it is necessary to keep compressed yeast in a cool place to prevent the plant from growing. Usually the plants can be kept in a good condition four or five days. A yeast cake in good condition must be of a uniform, creamy color over the surface and throughout the cake. It should break with a clean break. If it is stringy or ropy it should not be used.

"Starter bread, or bread made from liquid yeast, often has a sour, bitter taste, due to the presence of other invisible plants in the yeast. As a safeguard against this it is advisable to discard the starter frequently and begin using again, using a fresh cake of dried or compressed yeast as a source of the plant. One cup of liquid yeast in a good lively state is equal to one cake of compressed or dried yeast.

"If the dough has a crust formed over it while rising, which is kneaded in, there will be hard places through the bread. This crust may be avoided by lightly greasing the surface of the dough. Repeated rising of the dough and kneading down before making into a loaf makes a somewhat finer texture and a whiter loaf, but at the expense of the fine flavor of the bread.

"Small loaves may be more thoroughly baked than large ones. When several are baked in one pan, the inside loaves are rarely baked thoroughly. A loaf in a tin four by four and one-half by nine inches is easily baked in 45 minutes. A larger loaf will require longer baking.

"If the bread gets stringy in a few days after baking it is caused by bacterial growth. Flour sometimes contains bacteria which would cause this action and which are not killed by baking. The remedy is to sterilize by the use of boiling water all the utensils which have been used in making the bread and to get a new supply of flour.

"Hot breads are as completely absorbed as stale bread, or bread 24 hours old, but longer time is required for absorption and hence they are not desirable for children or persons with digestive troubles. One point in favor of many hot breads is the large amount of crust. The crust is more digestible than the crumb, the starch having been changed in the baking into a form of sugar-dextrine."

SHORT CUTS TO HOUSEKEEPING.

Clean windows in cold weather by rubbing with a soft cloth saturated with kerosene instead of using water.—D. L. M.

In cutting down trousers for the little fellow, he will be greatly pleased and yourself saved much time and work if you lay your pattern on the top and outside seams, cutting away whatever is necessary from the bottom and inside seams. This leaves those wonderful pockets intact, and the side openings can be cut just back of them and finished off with very little trouble.—Mrs. W. C. M.

FARM WOMEN'S BUILDING AT FRISCO EXPOSITION.

The executive board of the International Congress of Farm Women is planning a farm women's building at the San Francisco exposition, and has appealed to farm women all over the country for donations, either small or large, towards this purpose. Ground will be broken in May, if the board's plans go through. The committee is also preparing plans to invite farm women the world over to take part in the farm home uplift programs. Anyone wishing to send money for the building should communicate with Mrs. Belle V. Harbert, President, 340 Century Bldg., Denver, Col.

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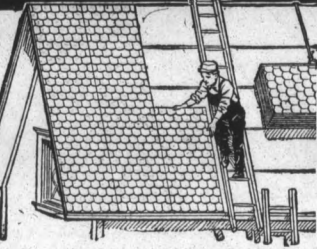
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Farm Commerce.

How One Commission Man Was Caught

HAVING been a shipper of farm produce for thirty years, I long since discovered discrepancies in returns from commission men that could not be accounted for in any way except that the goods were grafted. In the fall of 1907, I shipped 204 barrels of fancy Baldwin apples to a well-known and supposedly reliable commission house in a large city in western Pennsylvania. In a short time I got returns for 176 barrels of apples at a very low price. A letter accompanying the returns stated that the apples were badly rotted and that there was a shortage of 28 barrels because of the rotted condition of the fruit; also a charge of \$10 for labor in resorting the apples. This letter explained that the charge covered only a part of the labor of resorting, but that they felt sorry for me and so only charged a part of the cost up to me. The balance of the apples, they said, brought a low price because of the dull color and poor appearance of the fruit after being sorted over.

Four Years Later.

My loss being something over \$1 per barrel, or over \$200 on the lot, I naturally felt quite worked up over the deal. I wrote the firm a letter stating in substance that they were thieves. I got a letter in reply intimating that if I wrote them any more such letters they would have me arrested for using the mails for uttering a libel. I was somewhat worried over this state of affairs, so I let the matter drop for the time being. Four years later I went to another shipping station and opened up correspondence with this same firm under an assumed name, stating that I had a few nice apples to ship to some reliable commission house and that I understood that they were a reliable house. I soon got a reply asserting their reliability and saying that they would be very glad to handle my goods and predicting that the deal would be mutually beneficial.

Upon receipt of the letter I made a shipment of barreled apples in marked packages, leaving another shipment with a friend to be shipped one week later. I then took the train for the city. Upon arrival I secured a room near the produce district, under still another assumed name. The following morning I went into the produce district, making the acquaintance of my commission merchant, as a buyer of fancy apples. In about one week, I discovered early one morning that my apples had come in during the night and were at the freight station. I kept close watch and at length saw the firm's team come and get these apples. I next transferred my activities to the wholesale house of the firm upon the street, where the goods were soon unloaded. I appeared upon the scene early in quest of fancy Baldwin and Spy apples, of which my shipment consisted. After being shown several lots, none of which suited me, I was shown my own goods. These I purchased, being careful to take an itemized account of sales or purchase.

After buying the goods I secured the services of a cartman and took the apples to a cold storage plant in the city and put them in storage. I then stayed around the city, calling upon this house every day or two. I bragged up the goods I had bought and mentioned that if they should get any more apples like those, I would like to buy them. As the time drew near for the next shipment to arrive, I again kept watch at the freight sta-

tion. Again early one morning I discovered that my second shipment of goods had arrived during the night. I saw the apples carted to the wholesale house and unloaded as before. I again appeared on the scene as a purchaser, but this time I was recognized at once and notified that they had another consignment of apples from the same party that I bought of before; and they certainly did brag up those goods as being very fine. I quietly purchased these goods and, as before, took an itemized bill of the goods; and, as before, I took them to the cold storage plant and placed them in storage. I then left for home.

The Returns were what I Expected.

I got my mail through a friend. When the returns came in on the first shipment, the price was short about 50 cents on each barrel, and when the returns came from the second lot, they were short about \$1 per barrel. Between the two shipments the market price of apples had advanced about 50 cents per barrel. I then wrote the firm to know why my second shipment of apples had not brought a better price, calling attention to the advance in the meantime. I also asked them to give me the name and address of the party who had purchased the apples as I wished to come to their city and interview him. In reply to this I got a letter saying that the apples arrived in bad order and they sold them to a cheap peddler for cash and that they did not get his name and that their books did not show who he was.

Commission Men were Organized.

I expected just such a letter as this from my previous experience. Armed with this letter and others, also the bill of sales and bills rendered, I went back to the city and secured the services of a good lawyer, and commenced prosecution. All at once there was consternation in the whole produce section of the city. The commission men were organized into a league and one man's fight was every man's fight. A conference was held at their suggestion in my lawyer's office at which several prominent men of the city, including a state senator, were present. I was threatened with dire calamity. I found out that the produce dealers' association was more worried about the publicity of the deal than they were about the legal part. With their influence they appeared to feel that they could handle the legal fight, but the newspapers would get hold of the evidence and it would not do to let it get out. A claim set up by the firm was that they had sold the goods to themselves at the depot, and that I got the market price at the switch, and the advance was theirs. But the bill rendered contained a charge for cartage of five cents per barrel, so they were balked there and their claim would not hold water.

As I held both ends of the bag and also the goods and the letters I was not much worried about the outcome of the deal. The parties, however, were stubborn and the case was fought clear up to the door of the grand jury room before settlement was secured. The firm paid the full amount, including balance on the old account of four years previous. After settlement was secured, we got quite chummy and the head of the firm, as we parted at the close of the deal, said: "Well, Mr. Dean, I am no worse than the rest. They all do the same thing." I might mention that this man was a prominent member of

the church and stood high in the business community. My lawyer complimented me upon the legal aspects of the case, as I had the avenues of escape all cut off before I pulled the strings.

F. W. DEAN.

Note.—The Michigan Legislature at its last session passed Public Act No. 184 to provide against and punish fraud and deception in the sale of farm products on commission. This law would, of course, apply only to commission men doing business in this state.—Eds.

BUY MAINE SEED POTATOES IN CERTIFIED BAGS ONLY.

Potato growers who purchase seed from Aroostook county, Maine, are warned by the United States Department of Agriculture to accept only stock delivered in the original bags bearing the certificate of the Maine State Department of Agriculture to the effect that the potatoes are free from powdery scab.

This disease against which the quarantine was laid last December on account of its prevalence in Europe and in portions of Canada, has recently been found in a few places in northern Maine. The state of Maine has organized an effective inspection service to exterminate the disease and prevent its spread to other states, and Maine potatoes are now being inspected and sorted more carefully than ever before. No scabby potatoes are allowed to be shipped for any purpose, and no potatoes intended for seed stock can receive a certificate unless they are free from all suspicion of having been grown on the same farm or having been stored in the same warehouse with scabby potatoes. The special certificate of the Maine authorities is, therefore, considered to be an adequate assurance that the stock is safe, but potatoes which do not have this certificate are open to the suspicion that they may be repacked table stock.

Crop and Market Notes.

Michigan.

Hillsdale Co.—Heavy rains in this section, during the last week in March, did much good. Farmers are hauling manure, picking stone, and the like. No spring plowing has been done at this writing, but many acres are already plowed for oats, the work having been done last fall. About the usual acreage will be sown to oats. Wheat and clover seem to have gotten through the winter fairly well. Maple sugar makers did little, the weather being unfavorable. Weather here during the winter would not seem to have been of a character to kill fruit buds of any kind. Quite a large number of hogs, mostly yorkers, are being marketed, the price at present being \$8.25; eggs 16c; butter 25c; potatoes 55c; hens, alive 14@15c; wheat 93c; oats 38c; hay \$11.

Mecosta Co.—The weather has been very backward, which indicates a good fruit year. Fall seeding and grain went through the winter in good shape. Very little plowing has been done this spring. There are still some potatoes finding their way to market at 50c per bushel. Hogs 8c; veals 8c; cows \$40@75; horses \$150@250; hay \$12 per ton; eggs 16c; butter-fat 19c.

Shiawassee Co.—Snow gone and frost out of ground. Roads in very bad condition. Fruit has come through the winter in good condition, a high per cent of fruit buds alive and strong. Meadows in fine condition, very few winter-killed plants. Wheat is coming on and begins to appear quite green. Very little water standing on winter crops. Grass is beginning to start. Farmers are repairing fences, ditching and getting ready for spring work. Winter-fed lambs are going to market quite rapidly. Farmers here will cut down on bean acreage, believing price too low. A large acreage of corn will be planted. About the usual acreage of potatoes.

Branch Co.—The frost is out of the ground, and the farmers are beginning spring work, some plowing having been done. Work is well ad-

vanced owing to the late fall and open winter. Wheat and seeding looks fair. Several rains have settled the ground. Farmers have enough hay and grain to carry them through. Hens laying well. Wheat 95c; corn 65c; buckwheat \$1.70 per cwt; oats 37c; potatoes 60c; butter 23c; eggs 16c per dozen.

Monroe Co.—Changeable weather of March injured the wheat and seeding to some extent. No spring plowing done yet, but there is much ground fall-plowed. Potatoes 75@85c per bu; good timothy hay \$13@15. Milk dealers are paying 50c per cwt. less for milk. Cows have declined in price.

Emmet Co.—We have had considerable rain recently, and winter grains and clover have not suffered greatly. There is nothing doing on the farm in the way of spring work, as the frost is not all out of the ground, and remnants of snow banks are to be seen. Eggs are coming in freely, the price being 16@18c. There has been no change in prices of other produce. Fruit trees have come through the winter in good condition.

Livingston Co.—The frost is all out of the ground, and the farmers are preparing for spring work. More corn will be raised than usual, as a large number of silos will be built this season. Wheat, rye and clover are looking fine. Some hay is being marketed at \$10 for No. 1 timothy. Beans have advanced to \$1.75, and will probably begin to move at that figure.

New York.

Columbia Co.—Snow still lingers in spots where drifted. More snow fell during March than for 25 years. Meadows and rye have been well protected, and the outlook is fair. Spring work has not started, the season being late. About the usual amount of crops will be planted. Very little produce is being sold. Hay and rye straw bring about \$15 per ton; potatoes \$1; eggs 24c; butter 35c per pound.

Pennsylvania.

Erie Co.—Everything rather backward for this time of year. Peach buds and nearly all of the prunes are killed, other fruit is all right. The meadows and winter grains are looking fairly well. Farmers having sugar bushes are making a small amount of syrup and sugar. Everything indicates a large acreage of crops this spring. Eggs 16c; butter 25c; cheese 17c; potatoes \$1; loose hay \$10; straw \$5; maple sugar 13c per lb; maple syrup \$1 per gallon.

Montgomery Co.—We are having spring weather. The snow is all gone and the frost is out of the ground. Roads were almost impassable for a few weeks, but are now getting dry. Fruit buds have not made any progress yet. Grass and grain fields wintered well. Farmers are sowing cloverseed and doing spring work. Farmers on the hills have started to plow, but those on the lowlands must wait a few days. Eggs 20c; butter 34c; milk, in city 4c; at creamery \$1.30; best hay 70c per cwt; fat cattle 6c.

Lancaster Co.—Buds of fruit coming slowly. Meadows are in pretty good shape. All grain and feed has been sold except some corn. Spring work is late on account of the bad weather. The main crops to be grown this year are tobacco, wheat and corn, and not much rye, oats or potatoes. Eggs 18c; butter 35c; poultry 12@16c per lb.

Ohio.

Darke Co.—The weather is warming up some, and fruit buds will be opened soon. Grass is greening up nicely, and wheat is looking fairly well. There has not been much spring work done yet. There will be about the usual acreage of crops sown excepting oats, of which less will be sown. There will be a few sugar beets grown.

Allen Co.—The past ten days have been wet, and roads are practically impassable. Meadows and wheat are coming through in good shape. Fruit tree buds are held in check, which is a good thing. Corn 65@70c; wheat 92c; oats 42c; hay \$15@16; eggs 16@17c; dairy butter 22@24c; potatoes 50@60c; onions \$1.25; beans, hand-picked \$1.60.

Noble Co.—We are having a late spring, with much cold, wet weather. Farmers have begun plowing for oats, and prospects are for an average acreage. There will be a large acreage of corn, and wheat promises to be a good crop. Some damage to fruit buds has been reported, but other trees are all right. Nearly all the cloverseed has been sown. Cloverseed is worth \$5.50 per bu; wheat 91c; oats 36c; corn 85c per cwt; fat cattle \$5.50@7.50; calves \$7@8; hogs \$8@8.50; butter 24c; eggs 15c. There is quite a good deal of hog cholera in this locality.

Wisconsin.

Pierce Co.—Snow is gone, and the weather is springlike. Farmers are busy overhauling tools. Stock of all kinds seem healthy, and the winter's feed is only about two-thirds gone. There are many potatoes still in the farmers' hands, and offers to sell at 40c are not taken. All winter grains and clover look good. Nearly every farmer keeps cows, owns a separator and sells cream. Autos are almost as plentiful as sewing machines. Eggs 15c; cows \$60@70 each.

Illinois.

Marion Co.—Spring weather seems to be here at last. There is already a little pasture, and the ground is drying out rapidly. Farmers expect to plant oats and potatoes next week, but the acreage of both will be small on account of the late spring. The cold weather has retarded the fruit buds until the proper time, and this promises a fair crop. The meadows and wheat are in excellent condition. Milch cows are selling at \$60@80. Hens are laying well. Eggs 16c; butter 25@27c.

Campaign Co.—There are prospects of the usual amount of oats being sown. About one-third of last year's corn crop is still in farmers' hands. Eggs and butter are scarce on account of cold dry weather. The country is in need of spring rains.

Kansas.

Dickinson Co.—The recent heavy rains has put the ground in fine condition for growing crops. Wheat is all right, but late fall-sown alfalfa was winter-killed. All stock came through the winter in good condition on account of late pasturing, which saved the feed. Oats are nearly all sown, also potatoes planted. There are quite a few sales, and mostly live stock is sold. Pasture is scarce, as the land is becoming too valuable here to pasture. Corn 76c; oats 53c; wheat 80c; hay \$15. A large number of spring pigs are being raised.

Lincoln Co.—Wheat looks fine, and the cattle are grazing on it. Pastures are not showing any growth yet. Nearly all the oats are sown. Farmers are disking the corn land to keep it from blowing and drying out. Alfalfa is coming out fine. Hogs are scarce. Hens are laying well; eggs selling at 15c. Cream is being shipped, bringing 25c.

Finney Co.—We are having ideal spring weather. Buffalo grass is getting green. Stock is doing well. Spring has begun, and farmers are drilling barley, plowing and disking. A great deal of milo maize will be planted here this year. Farmers have little to sell except butter at 25c, and eggs at 15c; alfalfa hay \$8 per ton; prairie hay, baled \$10; corn \$1.55 per hundred.

Franklin Co.—March was warm and dry, giving farmers an opportunity to sow grass seed and oats. Weather is quite springlike. Blue grass pastures and lawns are starting nicely. Meadows seem to be in good condition and wheat and rye look fine. Alfalfa sown last fall was nearly all killed by the early freezes. There is little marketed except eggs and cream. Hens are laying well, and the price has dropped to 16c per dozen; cream 20c.

Nehama Co.—After the snow went off the wheat looked bad in spots, but now shows up well, and prospects are for a bumper crop. Farmers are preparing the ground for oats, and some seeding has been done. Many potatoes have been planted already. Eggs are becoming plentiful, and the price has dropped to 18c. Milch cows bring \$65@80. Horses are still getting cheaper, some good eight to 10-year-old horses sell for \$25 each. During the past season many cars of corn, oats and hay have been shipped in for feed.

Missouri.

Vernon Co.—The weather has been fine. Most farmers have sown their oats, and a large acreage has been put in. Wheat is in fine condition. also fall seeding of grasses have come through the winter fine. Old meadows are nearly all dead, owing to the dry weather last summer. Feed is getting scarce, but it will not be long before the grass will be growing. Fat hogs have all been shipped out of the country. A few bunches of cattle are still being fed. Some land is changing hands at \$60@75 per acre.

McDonald Co.—A great deal of oats being sown. Breaking ground is the order of the day. The farmers do not intend to plant much corn this year; oats, cane, kaffir corn, cowpeas, etc., seem to be the most popular crops. The meadows not killed in the dry weather of last season all looking good.

Barton Co.—March has brought us fine weather. Wheat looks fine. Oats are nearly all in, and there was a large acreage sown. Farmers here (Continued on page 458).



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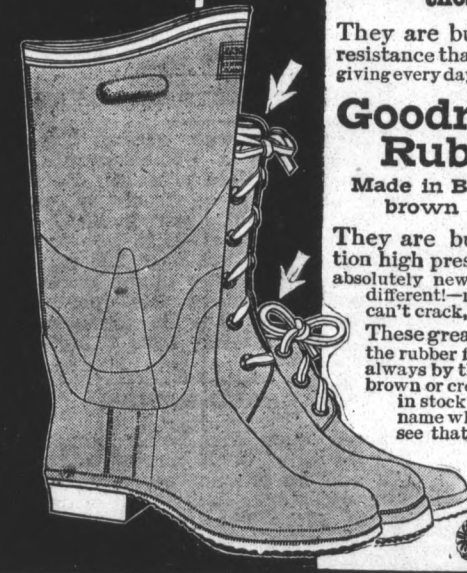
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Markets.

GRAINS AND SEEDS.

Wheat.—Trading continued steady the past week. The most important bearish news in the world market is the excellent condition of the growing crop in this country. With the single exception of reports of green bugs working in the plant in Oklahoma, every item of news pictures ideal growing conditions throughout the land. The heavy movement of wheat toward Europe has given buyers an easy feeling there. On the other hand, Germany reports unfavorable weather and the shipments from Australia are far more disappointing than was expected, both as to quantity and quality. The visible supply shows a decrease of over one million bushels. One year ago No. 2 red wheat was quoted at \$1.09 per bushel on the local market. Prices for the past week are:

	No. 2	No. 1	May
Wednesday	97 1/4	96 3/4	98 1/4
Thursday	97 1/4	97	98 1/4
Friday	98	97 1/2	99
Saturday	98	97 1/2	99
Monday	98 1/2	98	99 1/2
Tuesday	98 1/2	98	99 1/2

Chicago, (April 14).—May wheat 91 1/4; July 86 1/4 per bu.

Corn.—On the local market corn has had a favorable week from the seller's standpoint. But little grain has been coming here and prices have advanced accordingly. At Chicago improvement in the weather and the probability of increased imports from Argentina were credited with the weaker tone prevailing there. The visible supply of the country decreased over a million bushels. One year ago No. 3 corn was quoted at 56c per bu. Quotations for the week are:

	No. 2	No. 2	May
Wednesday	68	70	70
Thursday	68	70	70
Friday	68	70	70
Saturday	68	70	70
Monday	69	71	71
Tuesday	68 1/2	70 1/2	70 1/2

Chicago, (April 14).—May corn 67 1/4; July 66 1/4 per bu.

Oats.—This cereal continues steady and quiet. Prices are unchanged. The delay in spring seeding has been a bullish element in the trade. Standard oats were quoted at 39c per bu. a year ago. The visible supply decreased less than half a million bushels. Quotations for the week are:

	Standard	No. 3	May
Wednesday	42 1/2	42	42
Thursday	42 1/2	42	42
Friday	42 1/2	42	42
Saturday	42 1/2	42	42
Monday	42 1/2	42	42
Tuesday	42 1/2	42	42

Chicago, (April 14).—May oats, 37 1/4; July 37 1/4 per bu.

Beans.—Good demand continues at steady prices. The local board of trade quotes immediate and prompt shipments at \$1.98; May \$2.02 per bu. Chicago reports higher prices. Pea beans, hand-picked, choice, are steady at \$2.15; common \$1.75@1.90; red kidneys, choice \$3.15@3.75.

Rye.—This cereal is steady. No. 2 is quoted at 68 1/4c per bu.

Barley.—At Chicago barley rules easy and is quoted at 54@64c per bu., while Milwaukee quotes the malting grades at from 52@65c.

Cloverseed.—Values continue about steady. Prime spot \$7.65 per bu; alsike at \$7.95. Toledo prime cash is quoted at \$7.45 and prime alsike at \$10 per bushel.

Timothy.—Prime spot is selling at \$2.30 per bu.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs. as follows. Best patent \$5.30; second \$5; straight \$4.75; spring patent \$5.10; rye flour \$4.40 per bbl.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$29; coarse middlings \$28; fine middlings \$30; cracked corn \$30; coarse corn meal \$29; corn and oat chop \$6.50 per ton.

Straw.—Steady. Rye \$8@8.50; oat straw \$7@7.50; wheat straw \$7@7.50 per ton.

New York.—Rye straw \$17@18.

Hay.—Prices higher, receipts limited and demand steady. Carlots on track at Detroit are: No. 1 timothy \$15.50@16; standard \$14.50@15; No. 2, \$13@14; light mixed \$14.50@15; No. 1 mixed \$13@13.50; No. 1 clover \$12.50@13.

New York.—Prices advanced as offerings were restricted. No. 1 timothy \$21@21.50; No. 3 standard \$17@20; light clover, mixed \$18@19.50; clover \$17@18 per ton for the large bales.

Chicago.—Prices here rule steady. Choice timothy is quoted at \$18@19 per ton; No. 1, \$16@17; No. 2, \$13@14 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—Market firm with prices 1/2c lower. Extra creamery 25 1/2c per lb; firsts 24 1/2c; dairy 17c; packing stock 14c.

Chicago.—Market is steady, with the prices unchanged. Extra creamery 25c; extra firsts 24c; firsts 21 1/2@22 1/2c; seconds 19@20c; ladles 17@18c; packing stock 16c per lb.

Elgin.—Market is firm at 25@25 1/2c per lb., which is 1/2@1c higher than last week.

New York.—The market is unsettled, with prices about 1c lower. Creamery extras 25@25 1/2c; firsts 23 1/2@24 1/2c; seconds 22@23c; packing stock 15@16c per lb.

Eggs.—Market is easy on account of liberal receipts. Prices are 1c lower. Current receipts of fresh stock are quoted at 18c.

Chicago.—The market is steady at prices averaging 1/2c lower than last week. Receipts are liberal and a large share is going into storage. Miscellaneous lots, cases included, 17@18 1/4c; ordinary firsts 16 1/4@17c per doz; firsts 17 1/4@17 1/2c; seconds 15c.

New York.—Market is weak as the supply is greater than the demand. Fresh gathered extras 21@21 1/2c; extra firsts 20@20 1/2c; firsts 19@19 1/2c.

Poultry.—Market quiet but steady. Neither demand or supply very large. Prices the same. Live—Springs 19@20c; turkeys 19@20c; geese 14@15c; ducks 15@16c.

Chicago.—This market is quiet. Speculators took advantage of the recent drop in the price of fowls, but otherwise the demand was light. Prices are about the same. Quotations on live are: Turkeys, good weight 16c; others 12c; fowls, choice 17 1/2c; spring chickens 18c; geese 12c; ducks 16@18c per lb.

FRUITS AND VEGETABLES.

Apples.—Demand is fairly good and prices are unchanged. No. 1 \$5.50@6.50; No. 2, \$4@4.50 per bbl. In Chicago the market is quiet, and the demand is tame. Fruit goes down quickly after being taken from storage. Prices have not changed. Barrel stock is quoted: Spies \$5.50@6; Baldwins \$5@5.75; Ben Davis \$4@4.75.

Potatoes.—Market is firm, with prices slightly higher. Quotations: In bulk 62@64c per bu; in sacks 66@67c per bu. for carlots. At Chicago the market is active with prices about 5c higher. The supply is not equal to the demand, and buyers are anxious. Good Michigan stock 65@72c per bu. In New York the demand is also active. Reports from there state that the old stock is pretty well cleaned up. Michigan stock is in good demand at 77@80c at New York, but the supply is light.

DETROIT EASTERN MARKET.

The market was active Tuesday morning, with a liberal number of buyers and sellers present. Potatoes were offered more freely at prices shaded to 75@80c per bushel. Cabbage is scarcer at \$1.25 per bushel; carrots 65c per bu; eggs 22c per doz; rhubarb 25@40c per bunch, according to quality; onions 15c per large bunch. Loose hay is more active, with prices ranging from \$15@18 per ton.

GRAND RAPIDS.

Some eggs are being bought for storage now, with market at 16 1/2@17c and buyers not so keen as common for stock. Dairy butter is quoted at 17c. The poultry market is steady, with chickens worth 15 1/2c; ducks 16@17c; geese 12@13c. Dress-hogs continue at 10 1/2@11c. Potatoes locally are around 60c; Greenville reports 50@55c, and other stations around 50c. Hay on the market is still bringing \$15@18 by the load. Baled hay has been shipped in in quantities to retail at \$15. Grain prices at the mills as follows: Wheat 91c; corn 65c; oats 39c; rye 58c.

THE LIVE STOCK MARKETS.

Buffalo.

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

Receipts of stock here today as follows: Cattle 115 cars; hogs 125 d.

d.; sheep and lambs 55 d. d.; calves 1500 head.

With 115 cars of cattle on our market here today, and 22,000 reported in Chicago, we had a brisk and active market from start to finish. Weather was good and bright and we think the cattle all filled to good advantage and we sold them all the way from 10@25c per cwt. higher than last week; in fact, there was a load of cattle here today that sold for \$9.40 per cwt., but they were a fancy bunch of black poll cattle, averaged 1507, and regarded by good judges to be the best load of cattle that has been here so far in 1914. Market closed firm, with everything sold and prospects fair.

Our receipts of hogs were liberal, about 125 d. d., all told. Light receipts in the west was quite a help to our trade here today and, while prices run about 5c lower than Saturday's average, trading was active and a good clearance was made. Bulk of the best hogs sold at \$9.25, with choice heavies quotable at \$9.10@ \$9.20; pigs and lights, as to weight and quality, from \$8.90@9.15; roughs \$8@8.25; stags \$6.50@7.50.

The market was active today on both lambs and sheep. Prices 20c higher than the close of last week on lambs; sheep steady. Choice handy lambs selling mostly at \$8.85. We look for steady prices on lambs the last of the week. It will depend upon receipts.

We quote: Choice lambs \$8.75@8.85; heavy do, \$8@8.25; cull to fair lambs \$7@8.65; yearlings \$7.50@8; bucks \$4.50@5.25; handy ewes \$6.25@6.50; heavy ewes \$6@6.25; wethers \$6.75@7; cull sheep \$4.50@5.75; veal choice to extra \$9.75@10; fair to good \$8.50@9.50; heavy calves \$5.50@7.

Chicago.

April 13, 1914.

Cattle. Hogs. Sheep.
Receipts today..22,000 32,000 17,000
Same day 1913..26,433 36,788 22,900
Last week34,145 109,791 91,687
Same w'k 1913..50,615 104,008 89,179

The cattle supply today was very moderate for a Monday, yet aside from a good trade in fat butcher stock at steady prices, sales were slow, and steers were called largely 10c lower. Hogs were active at firm to 5c higher prices, with sales at \$8.50@8.95. Hogs received last week averaged 232 lbs., being four pounds lighter than the average of a fortnight ago. Sheep and lambs were scarce and largely 10@15c higher, with an active demand and prime woolled lambs purchased at \$8.50.

Cattle prices have been on the down-grade much of the time in recent weeks, despite the greatly reduced receipts, for the consumption of beef has been seriously lessened through its dearthness and the large numbers of men out of work, while the Lenten season and the abundance of comparatively cheap eggs recently increased the depression. But the cattle receipts last week were so extremely meagre that at last prices improved and showed average advances of 15@25c. The bulk of the beef steers crossed the scales at a range of 7.75@9, with a very fair showing of prime heavy beefs on Wednesday at \$9.05@9.45 and a top of \$9.50 for the week. Inferior to fair light-weight steers sold at \$7@7.95, medium to good steers at \$8@8.45 and good fat heavy cattle at \$8.50@9, with ordinary to prime yearling steers going at \$7.50@9.40. Butcher cows and heifers shared in the upward movement, with a good demand at \$5.30@9, 67 fancy little Hereford yearling heifers that averaged around 600 lbs. going at \$9, while cutters sold at \$4.70@5.25, canners at \$3.45@4.65 and bulls at \$5@8, with most of the bulls taken at \$5.25@7.50. A lively demand for prime light-weight veal calves for the Easter trade caused a boom in prices vealers going briskly at \$9@10.75 per 100 lbs., while coarse to good heavy calves brought \$5@8.50. Scant offerings and high prices prevented much activity in the stocker and feeder traffic, although many farmers were anxious to refill their feed lots. Most of these cattle sold at \$6@8.10, with a few inferior stockers taken below \$6 and high-class little yearling stockers going close to top prices. Stock steer calves of heavy weight were in excellent demand at \$7.50@8.25, while stock and feeding cows and heifers brought \$5.25@7. Milch cows were in improved demand at \$55@85 each.

Hogs are being marketed less liberally than earlier in the season, and stockmen are sure to withhold supplies whenever prices go lower, the result being that frequent recoveries take place. Ever since prime hogs advanced several weeks ago to the \$9 mark, frequent rallies have put the top price near that price, and pur-

chases of the better class of hogs for eastern shipment have been a powerful bullish influence. There has been the yearly gradual increase in average weights of the hogs received, and this has resulted in prime light and medium butcher weights selling at top prices, with the best heavy hogs taken 5@10c below the highest daily quotations. In recent weeks the receipts have averaged from 234 to 236 lbs., comparing with 242 lbs. a year ago, 228 lbs. two years ago and 237 lbs. three years ago. There is a large demand for fresh pork products, these selling much lower than other meats, but stocks of provisions are accumulating, largely because of high prices. On April 1 the aggregate stocks of salted hog meats in the principal western packing centers amounted to 249,000,000 lbs., being 8,000,000 lbs. larger than a year earlier and showing an increase for March of 5,489,000 lbs. Although the hog receipts exceeded those for the preceding week, prices stood on Saturday not much lower than a week ago, with hog sales at \$8.45@8.92 1/2 and pigs at \$7.50@8.75.

Sheep and lambs started off last week in a bad way, a large Monday supply enabling buyers to make their purchases 10@25c lower. The Monday run aggregated 35,721 head, and the best woolled lambs sold at \$8.25. Later in the week much smaller receipts put the market higher, with a much larger general demand. On Wednesday a consignment of four single decks of prime woolled wethers from Wisconsin was sold to an exporter and a local packer, the sheep averaging 157 and 173 lbs. respectively, the price being \$7.20, the highest in nearly a year. Colorado-fed woolled lambs made up the principal part of the receipts, with a small showing of sheep and yearlings and spring lambs. Shorn lambs were in fair supply. Woolled flocks closed as follows on Saturday: Lambs \$6.50@ \$8.35; feeding lambs \$6.50@7.25; wethers \$6.35@7.20; ewes \$4.25@6.75; bucks \$5.50@6; yearlings \$7@7.50. Shorn lambs brought \$6.10@7.10.

NATIONAL CROP REPORT.

The Crop Reporting Board of the Bureau of Statistics (Agricultural Forecasts), United States Department of Agriculture, estimates, from the reports of correspondents and agents of the Bureau, that the average condition of winter wheat on April 1 was 95.6 per cent of a normal, against 91.6 on April 1, 1913, 80.6 on April 1, 1912, and 85.7, the average condition for the past ten years on April 1. There was a decline in condition from December 1, 1913, to April 1, 1914, of 1.6 points, as compared with an average decline in the past ten years of 3.5 points between these dates.

The average condition of rye on April 1 was 91.3 per cent of a normal, against 89.3 on April 1, 1913, 87.9 on April 1, 1912, and 89.2, the average condition for the past ten years on April 1.

CROP AND MARKET NOTES.

(Continued from page 457).

are learning that it pays to take care in putting in the crop and also not to rely on a single grain crop. Stock looks well for this time of year. The farmers have very little to sell. Corn 75c; wheat 84c; seed oats 58c; feeding oats 45c; hay \$15; hogs \$8; cattle \$6.50. Horses and mules of good quality are high.

Nebraska.

Dawson Co.—There has been a large increase in egg production, and the price is now 20c. Conditions have been promising for winter wheat. We have had numerous wind storms, and little rain, though the subsoil is soaked to a great depth. Wheat 73c; corn 65c; oats 40c; rye 50c; barley 40c; dairy butter 25c; butter-fat 29c; steers 5@7c; hogs \$7@8; hens 10c.

South Dakota.

Todd Co.—Are having fair spring weather, and the prairie is starting to get green. Farmers have begun their spring work. Milch cows sell from \$75@95, and are scarce. Butter and cream 20c; eggs 15c; potatoes 65c; hay \$5@9.50; wheat 62@68c; oats and rye 45c.

Colorado.

Marion Co.—The weather is fine and the ground is in good condition to work. Oat sowing is general. All fall grains are in good shape. Meadows are beginning to grow. Farmers are planting potatoes and garden- ing. A few cattle for grazing are being bought. Feed is scarce and hay is being shipped in at \$15 per ton. Horse buyers are numerous, and stock, except horses, sells high at ales. Corn 72c; oats 46c; butter 21c; eggs 19c; poultry is not as plentiful as usual.

THIS IS THE FIRST EDITION.

The first edition is sent to those who have not expressed a desire for the latest markets. The late market edition will be sent on request at any time.

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

April 9, 1914.

Cattle.

Receipts 1074. Good grades bulls and canners steady; other grades 10c higher than last week.

We quote: Best steers and heifers \$8@8.25; steers and heifers, 1000 to 1200, \$7.50@7.75; do 800 to 1000 \$7.25@7.50; do that are fat, 500 to 700, \$6.50@7.25; choice fat cows \$5; good do, \$5.75@6; common cows, \$5@5.25; canners, \$3@4.25; choice heavy bulls \$7@7.50; fair to good bologna bulls, \$6.50@6.75; stock bulls \$5.50@6.50; choice feeding steers, 800 to 1000, \$6.75@7; fair do, \$6.50@6.75; choice stockers, 500 to 700, \$6.75@7; fair stockers, 500 to 700, \$6@6.50; stock heifers \$5.50@6; milkers, large, young, medium age \$65@80; common milkers \$40@50.

Bishop, B. & H. sold Mason B. Co. 1 bull wgh 1040 at \$6, 15 steers av 930 at \$7.75; to Bresnahan 6 heifers av 696 at \$7; to Goose 1 bull wgh 1310 at \$7.25; to Newton B. Co. 18 steers av 997 at \$7.50, 2 do av 850 at \$7.75, 6 do av 866 at \$7.60, 4 cows av 862 at \$5, 3 do av 1070 at \$6.25, 1 bull wgh 1220 at \$7; to Sullivan P. Co. 5 steers av 990 at \$7.75, 2 cows av 1315 at \$6.25; to Parker, W. & Co. 11 cows av 1011 at \$6, 4 do av 1072 at \$6, 10 steers av 940 at \$7.40, 16 do av 808 at \$7.30; to Rattkowsky 4 cows av 1000 at \$5.75, 3 do av 850 at \$4.50; to Thompson Bros. 5 do av 1200 at \$6, 1 do wgh 1040 at \$5.50, 1 bull wgh 1620 at \$7; to Sullivan P. Co. 2 bulls av 1490 at \$7.25, 4 heifers av 775 at \$6.75, 1 steer wgh 1100 at \$7.50, 2 do av 955 at \$7.40, 5 butchers av 938 at \$7.25, 4 do av 807 at \$7.55; to Parker, W. & Co. 1 cow wgh 890 at \$5.25, 4 do av 1050 at \$6, 12 butchers av 686 at \$7.10, 22 steers av 990 at \$8.25, 1 cow wgh 820 at \$6, 2 do av 810 at \$4.25; to Rattkowsky 6 cows av 958 at \$6.30; to Bresnahan 2 butchers av 785 at \$4.75, 7 do av 690 at \$6.85; to Ratner 1 bull wgh 1350 at \$7.50; to Rattkowsky 5 bulls av 1056 at \$6.50; to Mason B. Co. 12 steers av 896 at \$7.50; to Breitenbeck 17 do av 946 at \$7.30.

Roe Com. Co. sold Mich. B. Co. 4 cows av 1027 at \$6.25, 1 steer wgh 1470 at \$8, 11 do av 915 at \$7.35; to Breitenbeck 9 cows av 1011 at \$5.65.

Veal Calves.

Receipts 1023. Market \$1 lower than on Wednesday; will close lower. Best \$11.50@12; others \$8@10.

Roe Com. Co. sold Kamman B. Co. 6 av 125 at \$11.50, 6 av 130 at \$11.50; to Mich. B. Co. 18 av 140 at \$12.

Haley & M. sold Mich. B. Co. 22 av 150 at \$12; to Parker, W. & Co. 10 av 141 at \$12.50; to Rattkowsky 16 av 150 at \$13; to Goose 15 av 140 at \$12.50, 2 av 105 at \$9.50; to Applebaum 2 av 100 at \$10.50, 6 av 155 at \$12.12½; to Newton B. Co. 28 av 140 at \$11.

Sheep and Lambs.

Receipts 4035. Market steady. Best lambs \$8@8.15; fair to good lambs, \$7@7.75; light to common lambs, \$6.50@7; yearlings \$7.25@7.50; fair to good sheep, \$5.50@6.50; culs and common \$4.50@5.

Bishop, B. & H. sold Young 54 lambs av 93 at \$8.15; to Nagle P. Co. 189 do av 85 at \$8.10; to Parker, W. & Co. 75 do av 58 at \$7.50, 58 do av 69 at \$8.10, 57 do av 80 at \$8.25, 609 do av 90 at \$8; to Mich. B. Co. 34 clip lambs av 70 at \$6.50; to Sullivan P. Co. 18 yearlings av 110 at \$6.50; to Kull 17 clip lambs av 80 at \$7; to Harland 32 do av 70 at \$6.25; to Orlich 3 spring lambs av 40 at \$13; to Nagle P. Co. 101 lambs av 68 at \$8.10; to Hayes 20 do av 65 at \$7.75; to Thompson Bros. 25 do av 75 at \$8, 9 sheep av 140 at \$6; to Kamman B. Co. 19 lambs av 95 at \$8; to Newton B. Co. 80 do av 65 at \$7.50; to Fitzpatrick Bros 16 yearlings av 90 at \$7.50, 10 lambs av 63 at \$7, 7 sheep av 115 at \$6, 50 lambs av 73 at \$7.75, 14 lambs av 67 at \$7; to Hayes 39 do av 65 at \$7.75; to Barlage 16 sheep av 95 at \$5.75, 81 lambs av 62 at \$7.75; to Youngs 68 do av 65 at \$7.50; to Newton B. Co. 53 do av 80 at \$8; to Barlage 44 do av 75 at \$8; to Nagle P. Co. 255 do av 85 at \$8.15, 14 do av 75 at \$8.

Hogs.

Receipts 7304. None sold at noon. Prospects steady. Pigs \$8.85; others \$8.90.

Bishop, B. & H. sold Hammond, S. & Co. 3110 av 190 at \$8.90.

Roe Com. Co. sold Sullivan P. Co. 550 av 190 at \$8.90.

Spicer & R. sold Parker, W. & Co. 450 av 195 at \$8.90.

Haley & M. sold same 1280 av 195 at \$8.90.

Friday's Market.

April 10, 1914.

Cattle.

Receipts this week 1264; last week 1700; market steady. We quote: Best steers and heifers \$8@8.25; steers and heifers, 1000 to 1200, \$7.50@7.75; do 800 to 1000, \$7@7.25; do that are fat, 500 to 700, \$6.50@7; choice fat cows, \$6@6.25; good do \$5.25@5.50; common do \$4.50@5; canners \$3.50@4.25; choice heavy bulls \$6.75@7; fair to good bologna bulls, \$6.50; stock bulls, \$5.50@6.25; choice feeding steers, 800 to 1000, \$6.50@7; fair do \$6.25@6.75; choice stockers, 500 to 700, \$6.50@6.75; fair do, \$6@6.25; stock heifers, \$5.75@6.25; milkers, large, young, medium age, \$65@80; common milkers \$35@50.

Veal Calves.

Receipts this week 1208; last week 727; market 50¢ lower; best, \$9@10; others \$8@8.50.

Sheep and Lambs.

Receipts this week 4127; last week 4154; market 10c higher. Best lambs \$8.25; fair to good do \$7.50@8.15; light to common lambs \$6.75@7.25; yearlings \$7.25@7.50; fair to good sheep \$5.50@6.50; culs and common \$4.50@5.

Hogs.

Receipts this week 8958; last week 7348; market steady. Pigs \$8.85; others \$8.90.

LIVE STOCK NEWS.

Farmers of the southwest are reported as slow to invest in stock steers weighing around 700 lbs. at the asking price of about \$50 per head, and there is an increasing disposition to engage in breeding beef cattle.

Northern Colorado is reported to have marketed over half of the lambs and sheep fed the past winter, and remaining holdings are moving freely, with about 75 per cent of the current lamb receipts in the Chicago Stock Yards hailing from Colorado. These lambs are mostly good and fat, and the only complaint heard is that too many of them have been held until they are too heavy to suit the popular taste, this objection causing them to go at a considerable discount from prices paid for lighter lots.

Efforts made some time ago to increase the imports of Mexican cattle into the United States have been frustrated by the recent impost of \$10 ordered at the boundary by Mexican officials, and very few cattle are crossing the line.

Texas is expected to ship from 220,000 to 300,000 cattle to the southwestern markets during April, May and June. As feed is plentiful, and cattle are expected to command good prices, these cattle are likely to be shipped later than usual. These cattle held below the quarantine line are young.



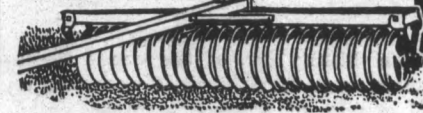
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Write for illustrated booklets and magazines telling of the successes Northern men have made in Kentucky, Tennessee, Georgia, Alabama, West Florida and South Mississippi. (411)

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New districts are being opened up, which will make accessible a great number of homesteads in districts especially adapted to mixed farming and grain raising.

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Do you want to sell your farm? Do you want to buy a farm? List your property with us. A postal card will bring full information, free. UNITED REALTY INFORMATION BUREAU, 307 Scherer Bldg., DETROIT, MICH.

Bargains snapped up quick like this Good Land. 217 acres—two sets buildings, one house worth \$4000, in fine shape. All kinds of hen houses. Four big barns, corn crib, big orchard, another good house, buildings worth twice price asked. 3 miles to railroad town. If sold this month only \$4000, easy terms. Hay this year will pay near half price asked, can run auto over it lay so good. Now do you want it? Halls Farm Agency, Owego, Tioga Co., New York.

FOR SALE—200 Acre Dairy farm 3 miles from Galesburg, 2 houses, 2 barns with stable for 38 cows, 3 silos, cream separator, gas engine. An excellent up-to-date farm. EDWIN W. VOSEBURG, Kalamazoo, Michigan.

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Near Saginaw and Bay City, in Gladwin and Midland Counties. Low prices: Easy terms: Clear title. Write for maps and particulars. STAFFELD BROTHERS, 15 Merrill Building, Saginaw, (W. S.), Michigan.

6000 ACRES—Rainy Lake, Presque Isle County, 20 years ago. Clay loam land, lumbered 20 years ago. Easily cleared, \$10 to \$12.50 per acre. Small payment, long time. Also 1200-acre ranch and partly improved farm. No crop failures or floods. Grain, grass, fruit, vegetables and live stock returns challenge comparison. JOHN G. KRAUTH, owner, Rainy Lake Settlement, P. O. Millersburg, Mich.

For Sale or Trade—I have a stock of general merchandise to trade for a good farm. Don't want a sand hill. Stock will inventory \$5,000. I have also a large number of good farms for sale. L. A. McARTHUR, Pt. Huron, Michigan.

40 Acres fine land for general farming and poultry. Good buildings, near market and school. At a bargain. For particulars write owner. R. J. Brown, R. 2, Scottville, Mich.

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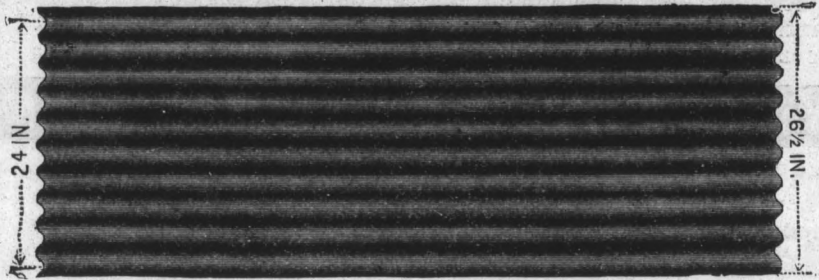
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White Wyandottes—Eggs from best pens \$3 per 15; \$9 per 50; \$15 per 100; from 3 pens \$70 per 15. David Ray, 202 Forest Ave., Ypsilanti, Mich.

BARRED ROCK EGGS FOR HATCHING—\$1.50 per 15, \$10 per 100. J. A. BARNUM, Union City, Michigan.

CHICKS—We ship thousands each season. Booking orders now for spring delivery. Prices always right. Free booklet, Freeport Hatchery, Box 12, Freeport, Mich.

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B. P. Rocks, R. I. Reds, and S. C. W. Leghorn eggs for sale. 15 for \$1.25 for \$1.50; 50 for \$2.50. COLON C. LILLIE, Coopersville, Mich.

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PRIZE WINNING BARRED ROCKS, S. O. Reds, Pekin and Indian Runner Ducks. Stock for sale, eggs \$1 up, chicks. Circular free. EMWOOD FARM, R. R. 13, Grand Rapids, Mich.

Pine Crest White Orpingtons—As good as the best. Eggs, Write for catalogue. MRS. WILLIS HOUGH, Pine Crest Farm, Royal Oak, Michigan.

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Land and Water Fowls. Farm-raised stock, with eggs in season. Send 2c for my valuable illustrated descriptive Poultry Book for 1914. Write Henry Pfiele, Box 676, Freeport, Ill.

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EGGS from prize winning Barred Rocks, R. C. White Leghorns, Silver Spangled Hamburgs, Fawn & White Runners. Circular free. Holstein bull calves Hengerveld DeKor blood. Riverview Farm, R. No. 8, Vassar, Mich.

EGGS—Pure bred Light Brahmas, White Wyandottes, \$1.50 per setting, \$2.50 per two settings. Cockerels, MRS. E. D. BISHOP, Lake Odessa, Michigan.

Eggs for Hatching from Mammoth Rouen Ducks, weight 10 to 12 lbs. Eggs \$2.50 per 11. D. G. Fisher, Route 3, Box 88, Birmingham, Mich.

FANCY (S. C.) WHITE LEGHORN COCKERELS. Price \$2 and \$3 each. Choice eggs, \$1 per setting. John McNicoll, Station A, R. 4, Bay City, Michigan.

STANDARD BRED R. I. REDS
Rose & Single Comb, S. L. Wyandottes, Pearl Guineas, F. & W. I. R. Ducks. Eggs (show quality) \$2 per 15, (good grade) \$2.25 per 30. All eggs sent free by P. P. & I. yrs. sub. to Michigan Poultry Breeder given to each customer. FRENCH FRUIT & POULTRY FARMS, Laundington, Michigan.

Tells why chicks die
J. C. Reefer, the poultry expert of 1604 Main St., Kansas City, Mo., is giving away free a valuable book entitled "White Diarrhoea and How to Cure It." This book contains scientific facts on white diarrhoea and tells how to prepare a simple home solution that cures this terrible disease over night and actually raises 98 per cent of every hatch. All poultry raisers should write MR. REEFER for one of these valuable FREE books.

Poultry and Bees.

Parasites of Poultry.

WE must expect the parasites to increase as the warmer days come on in the spring, unless special precautions are taken to prevent it. At this time the poultryman cannot be too careful of the birds. The broody hens and the young and immature are the ones that suffer most. I was asked once to give an opinion as to why a hen left her nest, refusing to stay on the eggs after she had already set two weeks. One look was enough, although the cause had completely escaped the eye of the owner. The nest was roomy enough and surroundings were apparently all right, but oh, the mites! The hay of which the nest was made was literally alive with them. Outside, the hen was making a feeble attempt to rid herself of the parasites in a dust bath. Her strength had already been severely sapped. Thus it is, if we are not careful at this season, the lice, fleas and mites will claim a fearful toll. Ten to one when you see a hen hanging around outside the house, with a general anaemic appearance, the cause will be found to be body parasites.

The Red Mite Serious.

Of the different kinds, the worst, in my opinion, is the red mite, known to science as *dermanyssus avium*. These parasites may be about the building and the owner not suspect their presence, as they feed mostly at night. Sometimes, as in the case mentioned in the opening paragraph, they will increase to such alarming numbers that they become a serious problem. Better try to prevent them by keeping everything as clean as possible. The old litter in the nesting boxes, cracked roosting poles and such nooks, provide ideal breeding places, also excellent hiding spots for them to spend the daylight hours. One will often find masses of them, red with blood from the fowls, in the early morning, but fading to a light brown at night. It is really almost impossible to keep them out entirely, but cleanliness and light, and the absence of good hiding places, will go a long way toward doing it. Under the microscope the red mites appear as hairy creatures, each with four pairs of legs. They are really little more than sacks of blood when full. Notwithstanding their greedy nature, they seem to survive long periods without food at all, when it is not available. Thus a house which has not been occupied by hens for months may still show their presence. There are other mites which sometimes infest the hens but the red mite seems to do the most damage.

Several Kinds of Body Lice.

The biting lice, of the genus *Mallephaga*, are more or less common on all kinds of domestic fowls, some species being peculiar to the hens, others to ducks, geese and turkeys. There are as many as twenty species known. They are found on nearly all fowls, no matter how healthy, and in the cleanest of houses. Different kinds of lice are found on different parts of the hen's body. One species is found only under the wings, another under the tail. Still another kind wanders all over the body and may also be found in the nests. This is the kind that crawls on the hands when a fowl is being plucked.

A louse resembling a dog tick is often found on the heads of young chickens and turkeys. This is the species for which greasing the head with a bit of lard is recommended. Turkey poults and chicks should be

examined frequently for this parasite. Water fowl do not suffer to any great extent from lice. Certain species thrive only on the ducks, but unless the birds are closely confined in filthy quarters, there is never much damage of serious results. The same is also true of geese.

Fleas in the Hen House.

Fleas do not live on the hens, but infest the houses. Like the mites, they sally forth to feed at night, sucking the blood from the bodies of their victims. They are likewise very tenacious of life, living and breeding in old boxes after they have once become infested, even though no food seems near for their sustenance. Thus old nests left exposed to the weather for months may still show their presence in countless numbers. Mould, fester and moisture are conditions which favor their spread.

Keep Hen House Clean.

All hen houses should be carefully cleaned in the spring and given a thorough whitewashing. To the whitewash should be added enough carbolic acid to act as a disinfectant. All cracks and crevices should be filled with the wash so there will be no hiding places for the fleas and mites. Previous to the whitewashing it may be necessary to scrub the roosting places with soap and water, using a large brush for the work. All litter should be removed. The nesting boxes may be burned out, there being no way so effective in getting rid of the mites. Take the boxes outside on a damp day, touch a match to the dry material and let it get to burning in good shape, then turn upside down on the wet grass. This will exclude the air, so the boxes will not catch fire, and cause a lot of smoke to penetrate all the corners and kill the pests. It is a good plan to do this occasionally throughout the season.

It is not always possible during the busiest season on the average farm, to give the poultry houses all the attention they need, but everything should be kept as clean as time will permit. This is about the only way to keep down the parasites. "Eternal vigilance is the price of success."

New Hamp.

C. H. CHESLEY.

THE QUEEN BEE.

In every colony of bees, whether it be located in a skep, the hollow of a tree, or in a modern hive, there will be found at some time of the year three kinds of bees—queen, drones and workers. The queen is the most important bee in the hive. She is the egg-layer, and as such is the mother of the bees in the hive, whether they are workers, drones or queens. Only one queen is, under ordinary circumstances, found in a hive, but occasionally two—mother and daughter—are for a time living together. The queen's sole duty being to lay eggs she has no other cares to claim her attention, in fact, she does not even attend to her own food supply. The nourishment needed to keep up the extraordinary egg-laying power she possesses, is supplied by the worker-bees which are, for the first fortnight of their existence, what may be termed nurse-bees. If a comb be taken out of a movable hive quickly and without disturbing the bees, the queen may be seen surrounded by a cluster of workers.

Regardless of how hard a bee has worked during its short life time the younger generation will push the old ones out of the hive, carry them to a distant field and drop them there to die.

Veterinary.

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

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

Bacterial Infection.—My sow had seven fine, healthy pigs which were lively as could be until 36 hours old, then they showed some pain, would squeal when moved, and now six of the seven have died. F. H. B., Isabella County, Mich.—You failed to give enough symptoms for me to make a correct diagnosis; however, they may have died as the result of infection through navel cord or from congestion, the result of cold.

Rheumatism.—I have a pig that is stiff in all four legs and has almost lost its appetite for food. W. F., Columbiaville, Mich.—Give your pigs 5 grs. sodium salicylate and 2 grs. of quinine at a dose three times a day. Stiffness in Hind Quarters.—I have a hog that seems to be stiff in hips and hind legs and I would like to know what to do for her. C. S., Levering, Mich.—Feed your hog oats, oil meal, tankage, or roots instead of corn. Give her 10 grs. of powdered nitrate of potash at a dose three times a day.

Sweeney.—I recently purchased a nine-year-old mare that had been sweened for two years, but she is not lame. K. M., Ithaca, Mich.—Clip the hair off atrophied portion of shoulder and apply one part powdered cantharides and six parts fresh lard three times a month.

Indigestion.—I have an Angora cat that has stomach and bowel trouble whenever fed potato; he is inclined to vomit and purge. When fed milk he appears to be all right for a day, then purges badly. Mrs. E. L., Smith Creek, Mich.—Feed him raw meat, a good quality of salmon; also give him some black coffee with crushed, well-toasted stale bread. Also give him 5 grs. bicarbonate soda at a dose one hour before feeding, or two hours after meals, three times a day.

Worms.—All my cats have died except one, and several of them have vomited or passed lots of worms. Mrs. G. K., Merrill, Mich.—For every pound that your cat weighs, give 1 gr. of powdered areca nut or 1 gr. of powdered kamala at a dose daily for two or three days, or as often as you believe it necessary to treat him.

Dropsy.—Have a brood mare due to foal May 14, which is healthy, except for having a soft, painless swelling under belly. O. B., Oakland Co., Mich.—Give her a tablespoonful cooking soda and a teaspoonful powdered nitrate potash at a dose in feed once or twice daily, and exercise her daily. Contracted Foot.—I have a horse that is lame in left fore foot, caused, I believe, by contraction, and I would like to know what to apply. L. E. W., Odessa, Mich.—Clip hair off coronet and apply one part powdered cantharides and eight or ten parts lard once a week; this will hasten growth of horn, and if hoof is hard, apply wool-fat.

Bacterial Infection.—My sow had seven fine healthy pigs which were lively as could be until 36 hours old, then they showed some pain, would squeal when moved and now six of the seven are dead. F. H. B., Mt. Pleasant, Mich.—You failed to give enough symptoms for me to make a correct diagnosis; however, they may have died the result of infection through navel or from congestion as the result of cold.

Exostosis.—Some six weeks ago my horse was taken lame, since then a bony enlargement two inches long appeared on side of pastern, which is inflamed, and this bony, I believe, is causing lameness. G. E. H., Corunna, Mich.—Apply one part red iodine mercury and four parts fresh lard to bunion once a week and rest horse until lameness disappears.

Chronic Cough.—I have a cow that has been troubled with a cough for the past four months. W. A. W., Inkster, Mich.—Put 1 oz. of guaiacal in 15 ozs of raw linseed oil and give 1 oz. at dose, either in feed or as a drench three times a day. By giving her a tablespoonful of tincture of opium at a dose with this mixture, it will check her cough more quickly than if it is not given.

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100 Head Pure Bred Holstein Cows, Heifers and Calves. **Saturday, April 25, 1914**
Cress Lawn Farms, Gustavus, Trumbull Co., O., at 10 A.M.

Many strong in the blood of King Segis, Pontiac Korndyke, and King of the Pontiacs, and a good number of these bred to King Pontiac Ormsby No. 53672, a son of King of the Pontiacs, now at the head of our herd. Animals tested by a competent State Veterinarian to go into any state in the Union if desired. Gustavus is reached by Youngstown branch of L. S. & M. S. Ry. Stop at Kinsman, free hack will meet you there. Train 215 leaves Ashtabula, O., at 7:00 A.M., train 240 leaves Youngstown, O., at 8:00 A.M. Catalogue on request.

B. E. TOTEN, GUSTAVUS, OHIO. P. O. Farmdale, O.
NOTE:—Wm. Bakody, Youngstown, O., sells 90 head purebreds on April 27th.
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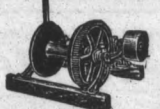
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100--4th Consignment Sale--100

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Sale will be held in the city of Howell, Livingston Co., Mich., rain or shine.

This is our 4th annual sale, and we aim each year to put up a better class of cattle. They are a fine lot of cattle, including many with A. R. O. records. They are from the best families of the breed, such as Hengervelds, DeKols, Pontiacs, King of the Pontiacs, King Segis, Pontiac Korndyke, Grace Fane 2d, 35.55; Sadie Vale Concordia, 30.64; Susie DeKol Paul, 30.05; Pontiac Clothilde DeKol 2d, 37.21; Queen Cantrell 3d, 30.71; Hillside Do Do, 31.94. Also bear in mind our consignments are all females, most all from or bred to such stock as mentioned above. Catalog April 8.

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FOUR YOUNG GUERNSEY BULLS, old enough for service, for sale. Exceptional breeding and in individuality. Village Farm, Grass Lake, Michigan.

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Registered Holstein Bull 4 months old, dark marking, his dam is a 14.33-lb. grand daughter of Pietertje Hengervelds Count DeKol, 98 A.R.O. daughters, 4 above 30-lbs., his sire is a son of a 33-lb. cow who has a 29-lb. four year old full sister. \$95 delivered. Write for pedigree. Hobart W. Fay, Mason, Mich.

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Bull Calves \$50 to \$200.

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\$750 Buys 10 high grade Holstein heifers from 15 to 20 mo. old, all nicely marked, and bred to a registered bull. B. B. REAVEY, Akron, Michigan.

A FEW CHOICE Holstein Friesian Bull Calves for Sale. A. R. O. Stock.
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Holstein Friesian Cattle Herd Headed by Albina Bonte Butter Boy No. 93124. Average for dam and sire's dam A.R.O. at 4 yrs. butter 7 days 28.37 lbs. No stock for sale. W. B. Reader, Howell, Mich.

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BERKSHIRES Choice spring boars and gilts. Priced to move quick. Farmers stock. **ELMHURST STOCK FARM, Almont, Mich.**

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POLAND CHINA PIGS—From large prolific stock. Shorthorn Bull Calves. Eggs \$1 per 15 from choice Barred Rocks. **ROBERT NEVE, Pierson, Michigan.**

BUTLER'S Big Boned Prolific Poland Chinas. Grow big, keep easy, mature early, ready for market at 6 months. Why? Because we've bred them that way for more than 20 years. We have 25 big boned boars ready for service. Buy one and make more money on your hogs. You can't get any better at any price. P. C. History Free. **J. C. BUTLER, Portland, Mich.**

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350 BIG TYPE MULE FOOT HOGS—America's Champion Herd. Prolific, hardy, Boar for Mich. Also Ponies. **J. DUNLAP, Box M, Williamsport, Ohio.**

YORKSHIRE SWINE—Boars all sold. Yearling sows bred for March farrow. Weanling pigs ready May 1st. **GEO. S. McMULLEN, Grand Ledge, Mich.**

Mule Foot Bred sows, bred gilts and boar pigs, not related, for sale. Satisfaction guaranteed. **G. C. KREGLOW, Ada, Ohio.**

FOR SALE—Yorkshires, milk fed, spring pigs and a few sows bred for April farrow. Prices reasonable. **C. H. JOBSE, Mt. Clemens, Michigan.**

Yorkshires Guaranteed to not die of Cholera. Prolific, long deep and well fleshed. Feb. and March pigs. Trios not akin. Boars. **Cribbs Bros., Watervliet, Mich.**

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The large, long-bodied, heavy-boned prolific kind. Sows and gilts bred for spring farrow. 60 head of September, October and November pigs. Prices reasonable.
W. C. COOK, R. 42, Ada, Michigan.

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Spring gilts, splendid ones. Fall pigs, either sex. Gilts bred for spring farrow.

COLON C. LILLIE, Coopersville, Michigan

Practical Science.

LABORATORY REPORT.

BY FLOYD W. ROBISON.

Loss of Nitrogen when Artificially Applied.

We are planning a series of experiments with unmixed commercial fertilizers. Will you kindly tell us, as accurately as possible, what percentage of loss there would be of nitrogen when applied in the form of nitrate of soda, to the surface of the soil, after the crop had been sown; what percentage of loss we might expect if mixed in the first two inches of soil, and again when mixed through the entire surface soil? Also how great an effect has the rays of the sun on nitrogen applied at or near the surface? Our point is, how great is the danger of loss, when applying commercial fertilizers, from the air, from the rays of the sun and from leaching or washing when water runs from the surface? We are taught that nitrogen is easily washed from the soil. How about lands that flood annually and are usually rich in nitrogen? I know our query is long and puzzling, but a careful review of these points we feel would be highly appreciated by your more advanced readers.

Ray Co.

L. W. O.

The questions raised by L. W. O. with reference to the loss of nitrogen due to the effect of the atmosphere on nitrate of soda, and the direct rays of the sun, and the leaching effect when distributed in the soil, are questions which have never been satisfactorily answered. The reason for this is that the various so-called plant food constituents, or administrative agents, exert their influence on crop production in a more or less indirect manner. We know, however, the properties, both physical and chemical, and we are justified in reasoning by analogy as to the probable action in the soil. The analogy is not always a satisfactory way of explaining, however, for we do know that in the case of phosphoric acid its behavior when mixed with the soil is in an entirely different manner than when treated by itself. We may be sure that when nitrate of soda is applied to the soil the behavior of the natural agents, such as air, sunshine and rain, upon it is modified at least to some extent by the influence exerted by the soil itself.

Nitrate of soda, however, can be dissolved from the soil by a moderate amount of water and in this respect it does not seem to differ materially from the action of the nitrate of soda outside of the soil. It is impossible, however, to add a fertilizer like nitrate of soda to the soil in any particular way, and by observation on the crop grown, say, that a certain effect is produced only by the nitrate of soda. Again, without doubt, a certain amount of nitrate of soda, while being useful to the immediate crop production, may remain in the soil and it is again difficult to say just how much has remained behind, and how much has been taken out by the crop. Experiments of this kind are not mathematical in their exactness, and it therefore becomes necessary to handle the fertilizer in a variety of ways in order to eliminate as many unknown quantities as possible and fix the responsibility on the nitrate.

The main effect of the air on the action of nitrate of soda is the changing of this condition from possibly nitrate in some conditions to nitrate and ammonia in others. Experiments have demonstrated that there is apparently as great value to be attached to nitrogen in the form of ammonia as in the form of nitrate, or nitric acid. Therefore, we may safely ignore the atmospheric action on the nitrate of soda, but we should bear in mind that the importance of a satisfactory air balance in the soil is most desirable for the activity of

the nitric organisms, and therefore if there were not a satisfactory amount of air in the soil, by which condition the manufacture of nitric nitrogen goes on through the media of the bacteria, we may easily say that while it may have no great influence on the nitrate itself, yet it does encourage the most rapid abstraction of nitrate nitrogen in the crop, for it is in such case the only nitrogen available. We may thus see that the atmospheric action is only indirectly applicable to nitrogen in the form of nitrate of soda, but its action is just as sure, however, on the crop and on the total nitrogen available for crop production.

With regard to the action of the sun's rays on the nitrogen in the form of nitrate of soda, the argument is in the main as in the action with atmosphere, for it is entirely an indirect action which is manifested. The effect of the sun's rays on the condition of porosity in the soil determines very naturally the status of the bacterial flora therein, and upon this bacterial flora the manufactured nitrogen compounds in the soil depend, to a considerable degree. This factor therefore determines whether the nitrate nitrogen supplied in the form of fertilizer shall be about the only available nitrogen present. Therefore the effect of the sun's rays on nitrate of soda is an indirect one.

The third query, however, how to estimate the leaching effect of water on nitrate of soda, is not as uncertain a proposition. It is a very variable factor, depending upon many things. The prevalence of heavy rains influences it; the condition of the soil, whether porous and warm, or compact and cold. Without doubt nitrate of soda should be applied either upon the surface entirely or in the first two or three inches of the surface soil. It may even be spread as a topdressing after the crop is up, but should never be applied in the fall, or at least, late in the fall nor at the time in the spring when rains are too prevalent or when water is standing on the soil.

To make nitrates as applied in commercial fertilizers economical, the soil condition must be very nearly ideal, for otherwise the removal from the soil by leaching is much faster than its abstraction by plant growth. If the soil is not in good condition plants will not thrive, and consequently they will not use nitrogen, even though it may be present, and it therefore becomes lost through leaching in the soil.

We would say, finally, that if the soil is well drained, well cultivated and warm, it will take care in the growing crop of almost any quantity of nitrate of soda which the farmer may feel able to put on the soil. A soil in such a condition will lose practically none of its nitrogen by leaching, and none of its nitrogen through atmospheric conditions or due to the activity of the sun's rays.

CATALOG NOTICE.

Planet, Jr., farm and garden implements, manufactured by S. L. Allen & Co., Philadelphia, are fully illustrated and described in a new 72-page catalog, which will be sent to Michigan Farmer readers on request. In it will be found listed a complete line of garden implements, including garden drills, wheel hoes, hand-cultivators, etc., also a full line of one-horse cultivators for garden use, with attachments for a variety of uses. Two horse cultivators and two-row cultivators of various types are also listed, as well as a variety of implements for special uses about the farm. The catalog is conveniently indexed for ready reference, and will be found useful to every farmer.

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where the climate is exceedingly agreeable and healthful, where railroad communication is of the highest order and transportation to Northern markets but 24 to 48 hours. Life in the rural sections of the South is all that could be desired. Modern highways and telephones, the best of high and agricultural schools, good churches and trading centers—all these advantages are to be had in this growing section.

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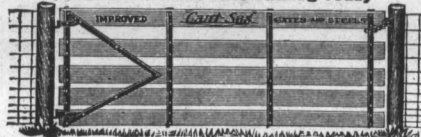
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13 Cents Per Rod Up Strongest, heaviest wire, Double galvanized. Outlasts others nearly 2 to 1. Low prices direct from factory. Over 150 styles for every purpose—hog, sheep, poultry, rabbit, horse, cattle. Also lawn fence and gates of all styles. Mail postal for catalog and sample to test and compare with others. Address THE BROWN FENCE & WIRE CO., Department 49, Cleveland, Ohio.



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41 INCHES HIGH 100 other styles of Farm, Poultry and Lawn Fencing direct from factory at save-the-dealer's-profit-prices. Our large catalog is free. KITSelman Bros., Box 278 Muncie, Ind.

Farmers' Clubs

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

Associational Motto:

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

Associational Sentiment:

"The Farmer: He garners from the soil the primal wealth of nations."

THE FARM LABOR PROBLEM.

(Continued from last week).

So, too, the lack of social opportunity is sending so many country young people away from good homes where there is every need of their help, to the poor lodgings and meager pay that are the usual accompanying features of the beginner's job in the city. One of the determining features of the immigration cityward of our young, is found in the fewness of the young people. Especially in districts where large farms prevail, is there a scanty population. Among the farm owners, as in other well-to-do classes, we find a dearth of large families. Compare the present families having one, two or three, or often no children with those of half a century ago averaging eight. Is it any wonder that there are fewer farm helpers? Our grandparents, if by any chance they hadn't enough children to help them with the work, were sure to find plenty among their neighbors' sons and daughters. The causes of this decrease in rural families are the same in part, at least, as in the urban. I will mention but the one which seems of most importance in connection with this paper. So, aside from the expense of child-birth, there is the added expense of hired help in the home. Again, the expense is a minor item in comparison with the difficulty of securing competent and reliable female help. This is even more difficult than to secure male help. Practically the only solution, then, is that the head of the house undertake to assist in the home duties. This might be a desirable arrangement, were it not for the fact that it takes him away from his own work—work with which he has no competent man to entrust. Yet I believe our rural people would do well to look beyond the discomforts of the present to the welfare and happiness of not only their own future, but to the future of our social commonwealth itself.

But even the people having children have less and less of their help in the home and on the farm. Society is daily becoming more complex; not even on the farm are the manifold and varied industries of life being carried on in each home. Here as in the city home, the products of the great industrial concerns are being brought in. More and more of the child's life is being spent in acquiring an education that will enable him the better to adapt himself to the ever-changing social conditions. Unfortunately, our rural schools are almost entirely in the charge of teachers who are using these schools as "stepping-stones" to better things, who are eager for the time when they can go to the city and enjoy its supposedly greater opportunities, and unconsciously such teachers instill a like desire in their pupils. In their teaching they are unwittingly laying the emphasis on things urban, and many a child leaves school without ever having learned that there is opportunity for a career as well as a living on the farm, now as well as in the time of Washington and Henry Clay. Whatever conditions may prevail in the future, as yet compara-

tively few of those graduating from even our agricultural colleges or high schools come back to enrich the social life of their country communities. It may be as the editor of "Country Life" suggests, that it is not desirable that all the young people stay on the farm. It may be that stagnant society degenerates and that the movement from city to country, and vice versa, keeps society mobilized and preserves the balance, but if this is to be true, it must no longer be a movement of the brightest from the country to the city, and of the slum element from the city to the country.

(Continued next week).

CLUB DISCUSSIONS.

West Otisco Farmers' Club Organized.—After two preparatory meetings, several farmers of West Otisco met with our genial chairman, Geo. Hall and wife, and organized a Club, its chief aim being the binding of closer ties in a social way, with one's neighbors. Officers elected were as follows: President, Geo. Hall; vice-president, Edward Reeves; secretary, Mrs. William Travis; treasurer, Miss Della Carpenter. Nineteen families signed the constitution, and much interest was manifested. One of the finest dinners of the season was served, and though the program was rather in the embryo state we expect it to grow under the present committee of six until it resembles the proverbial bean stalk. Believing we can reach our aim the better by meeting our neighbors in their own homes, the next meeting will be held in April, with Mr. and Mrs. Lee Miller.—Della Carpenter, Cor. Sec.

Favor Present Road System.—The Salem Farmers' Club held its March meeting at the pleasant home of Mr. and Mrs. W. W. Hamilton. A fine dinner was served, a very enjoyable social hour was spent and a fine program given. The subject of "Keeping Dairy Cows for Profit" was discussed. As most of the farmers present were dairymen, this was an interesting subject. The subject of trading with the mail order houses was energetically discussed. The members gave some of their experience mostly in favor of patronizing your home town. A humorous recitation was given by Bruce Rorabacher, "That Mule." Also humorous reading by Mrs. Walter Burns, representing the "Appetite for Speed," which Americans are so rapidly developing. President Thompson called attention to several points of interest in connection with our coming corn contest. The Club joins with the Gleaners in making up a committee of six who are to attend to arrangements. An expression was taken in favor of present system of managing the road question. Closed with music.—Cor. Sec.

Discuss Corn and Good Roads.—The Deerfield Farmers' Club met at the home of Mr. and Mrs. Fred Croft in March. After a sumptuous dinner was served, a fine program was rendered. The topics of the day were, "Corn," and "Good Roads." Some claimed you should plant corn instead of drilling it, and it should be three and a half or four feet apart. By doing this way, they had better results. Others said the drilled corn produced good results, but it took work to keep it clean. Some thought it was more work after it was in the ground, than the planted corn, in order to produce good results. Another good topic was discussed, which was "Good Roads." Some thought we should have a township road system, and others a county road system. But either one would be appreciated, as we need good roads. Then came the question box. After the singing by the Club, we adjourned to go home, feeling well paid for coming.—Mrs. J. F. Lutz, Cor. Sec.

Ceresco Farmers' Club met March 2 with Mr. and Mrs. George Smidt in their beautiful rural home. Although a rainy morning, the mud up to the hubs, there were 7 present to partake of the bountiful dinner and enjoy the afternoon entertainment. President Crosby called to order. All joined in singing "Kind Words Can Never Die." A paper was read by P. M. King, on "Fertile Facts for Farmers," answered by Messrs. L. L. Lewis, Wm. Wottles and Geo. Reese. In response to an invitation, 20 new members were welcomed and an invitation to meet in April with Mr. and Mrs. Len Smith accepted. A song by one of the young ladies was much enjoyed, as was the fine musical and literary program. Meeting closed by singing America.—Mrs. P. M. King, Cor. Sec.

Grange.

PUBLIC SPIRITED GRANGE WORK.

As with all social and fraternal organizations, there are Granges and Granges. Some go through the general formality of the work and feel to a great extent, sufficient unto themselves, while others are most active in work of public good. Much of this progressive public work was shown in the participation of some of the Pomona Granges in meetings of the type of the Kalamazoo Conference, and the Farmers' Day held at Pontiac for which the leading Grangers of Oakland county were mostly responsible. This latter meeting was of especial significance, because it brought together representatives of all of the farmers' organizations of the county and the merchants of the city. With their feet under the same table, and partaking of the same food, these producers and sellers of the world's necessities were able to give, in a friendly way, their side of the problems of the day.

C. S. Bartlett, who was one of the prime movers of this meeting, said that it was a decided success in every way. The merchants, through their Commercial Club, gave hearty co-operation and assistance, and felt favorable toward having other meetings of this kind. Due to the success of this meeting, a permanent organization is being formed in the county which will have as its board of management a representative from all of the Granges and Farmers' Clubs in the county, the Oakland County Horticultural Society, and various other farmers' organizations there. The Commercial Club, of Pontiac, will also have representatives on the board. The object of this organization is to have more of these get-together meetings, so that there may be a better understanding between the various lines of activity and a co-operation between them for a Better Oakland.

Oakland county furnishes another example of the fact that co-operation between organizations working for the same common purpose is as valuable as co-operation within an organization. This is the Federated Committee of Wixom, which is a federated committee of the Wixom Church, Grange, Farmers' Club, and School. Its purpose is to foster and encourage the community spirit, which can only be done by co-operation. It has had wonderful effect in getting these organizations to spend their energies along common lines where before all were trying in different ways to accomplish work of public good.

Last winter this committee held a lecture course which was most successful and brought to Wixom entertainment and enlightenment which would not have been possible through the efforts of any individual organization. Already the committee has full arrangements made for a Federation Fair which will be held in October. The premium lists are out, even now, for distribution. This is more than some of the larger fairs of the state can say, and shows that some real live people are back of this movement. The premium list provides for contests in all of the common farm crops for the men, also in canned goods, baked goods, and embroidery for the ladies, and for the children, various contests along the line of school work. There will even be a better baby contest, in which there will undoubtedly be spirited rivalry.

Another thing this committee will soon undertake, is the establishment of a playground for the children near the schoolhouse. This committee has

been organized comparatively a short time, and if it continues as it has started it will make the name of Wixom known far and wide.

Other communities may well take heed of work like this and the Grange should lead in such movements.

BIG MEETING OF LAINGSBURG GRANGE

Laingsburg Grange, in Shiawassee county, although a comparatively new Grange, is proving itself a very active youngster, having taken in 50 new members since the first of February. Having a class of 40 to initiate in the third and fourth degrees, and about 30 to take the first and second degrees, it was decided best to hold an all-day meeting at their hall March 25. Capital Grange degree team were invited to exemplify the work of the four degrees. About 30 members of Capital Grange made the trip and pronounced it the most enjoyable pilgrimage yet taken in that capacity. The first and second degrees were conferred in the morning, with E. A. Holden and W. R. Cooper respectively as masters of these teams, the work being very impressive throughout. Dinner was served by the ladies of Laingsburg Grange, and was pronounced a masterpiece of culinary skill by the visitors. After dinner the third degree was exemplified by the ladies' degree team of Capital Grange, and the fourth degree by the regular officers of the same Grange, of which George Hume is master, and was carried out in a faultless manner. A short program followed, consisting of music by Laingsburg Grange, talks by new members, with remarks by R. W. Cooper who spoke of the moral and educational work of the Grange. C. W. Foster alluded to the splendid work the Grange was doing in Michigan along temperance lines. Said his attention was first drawn to the Grange when he read their printed programs and saw that they discussed live questions, up-to-date topics, political questions, but not partisan politics. Mr. Hume spoke of the legislative and social work accomplished by the Order. Supper was then served, a social hour spent before train time, and all who participated in this "Big Meeting" felt that

Old friends were united, new friendships were

Formed that memorable day;
Cemented by fraternity's ties, that shall

Last forever and aye.

Mrs. E. J. Creyts.

AMONG THE LIVE GRANGES.

Ingham County Pomona Grange was royally entertained by White Oak Grange, Saturday, March 28. In spite of bad weather and roads, there was a good crowd of enthusiastic workers. After a most excellent dinner, served by the ladies of White Oak, the meeting was called to order by Worthy Master Young. During the regular order of business, Grace Fisher, newly elected lecturer for Pomona, was installed. Following the business sessions an interesting and instructive program was given. Rev. Morrison gave a splendid temperance address quoting, not statistics, but facts and scenes of reality growing out of the curse of liquor. No father, no mother desires the son to fill a drunkard's grave, or a daughter ruined by the never failing curse of the saloon. Then followed an interesting talk on prohibition, by H. K. Smith. A paper, "Thoughts, and what they Produce," by Mrs. Davidson, of Ingham Grange, was very much enjoyed. Recitations, "Marie Spicer's Census Taker," and "The Convict's Warning," by Miss Bachelor, were highly appreciated. A discussion of the county road system by several of the members brought out many interesting thoughts and ideas. Music, consisting of songs by White Oak Grange, violin solos by Mr. Potter, and vocal solos composed by H. K. Smith for the occasion, completed a program enjoyed by all.—Grace Fisher, Lecturer.

NEW GRANGE IN BARRY COUNTY.

Castleton Grange, No. 1775, is the title of the new Grange organized in the Feighner schoolhouse in Castleton township, Barry county. This Grange starts out with 64 charter members and is the result of the efforts of Roy G. Brumm and others. Deputy C. F. Kiefer, of Morley, was present and installed the following officers: Master, E. M. Palmer; secretary, R. G. Brumm; lecturer, Bert Price; overseer, Fred Brumm; steward, Elmer Mater; assistant steward, Frank Hart; assistant lady steward, Miss Pearl Dill; chaplain, Mrs. Cleveland Strow; gatekeeper, Freeland T. Garlinger.

Overland \$950

Completely Equipped
With electric starter and generator—\$1075.
Prices f, o, b, Toledo

Now is the Time —

WHEN bright little Miss Spring comes cheerfully bobbing into your midst and gruff Mr. Winter goes grumbling and sliding out of sight—when old mother earth is thawing out and inviting you and yours to stay and play out in the open—when every single road coming and going from your farm is automatically cleared by nature and opened up for a big spring business—when the days get longer and the sun gets warmer—when the welcome robins and tiny buds appear and the slush, snow and ice disappears—that's the time to get your new Overland and open her up to your heart's content. And you need it more than you probably realize.

What's more—your whole family needs it.

Think of Your Family

They, too, want to get out of their former small and narrow path. They, too, want to go hither and thither—seeing, learning, playing, working, enjoying, broadening and accomplishing.

For life can be just what you make it—dull, forlorn and narrow or just chuck full of everlasting fun and enjoyment.

Even work becomes light under the proper conditions. Remove the dreary drudge and you get light-heartedness in all of its efficient youth and glory.

That's what an Overland can do for you and yours!

"Yes"—you say, "but that costs a whole lot of money."

There's where you are wrong.

It doesn't cost a whole lot of money.

Do you realize how much automobile you get in an Overland for \$950? Do you realize that it is a great big five-passenger touring car? That it has the power to take

you wherever you want to go and that it is built to last for years and years and years.

A Big, Beautiful, Powerful Car

Don't confuse the Overland with those small dinky cars. Because our price is so exceedingly low people often class us with those small affairs. Our price is low because we manufacture cars on such a gigantic scale that we can make them more economically than anyone else in the business. This year we will produce 50,000 cars. Think of it! And that's the reason our price is 30% under anything on the market.

The Overland is a big car—a roomy car—a powerful car—a beautiful car—a comfortable car—dependable to the last degree.

In fact the mechanical construction of the Overland could be no better—regardless of price.

Then the Overland is right up-to-date in every respect. The body is finished in rich Brewster green—trimmed in highly polished nickel plate and aluminum. It has a graceful cowl dash. There are electric lights throughout—even under the dash. The motor is powerful, speedy, smooth and quiet. The wheel base is long and the tires are large. It is remarkably economical on oil and gasoline.

Right Up-to-Date

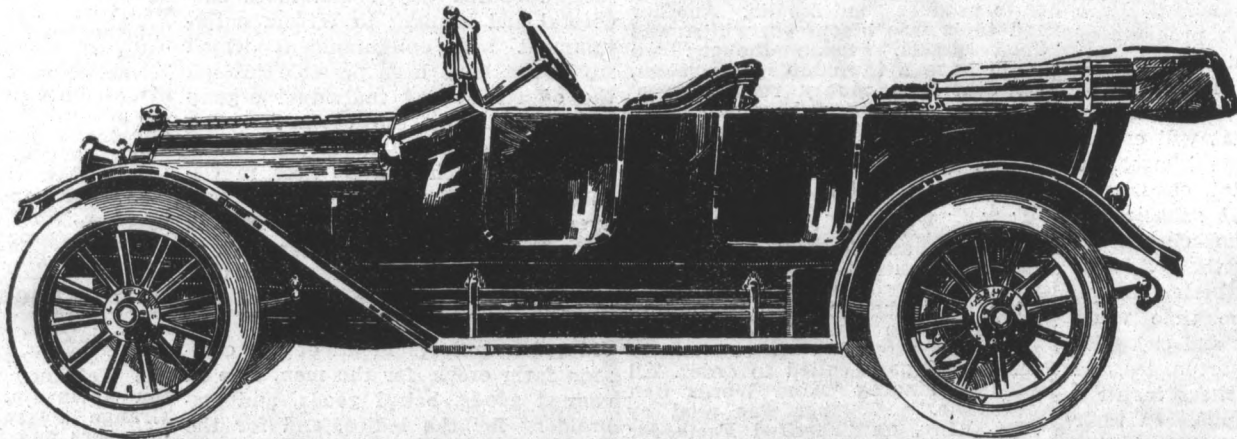
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